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Long Island City
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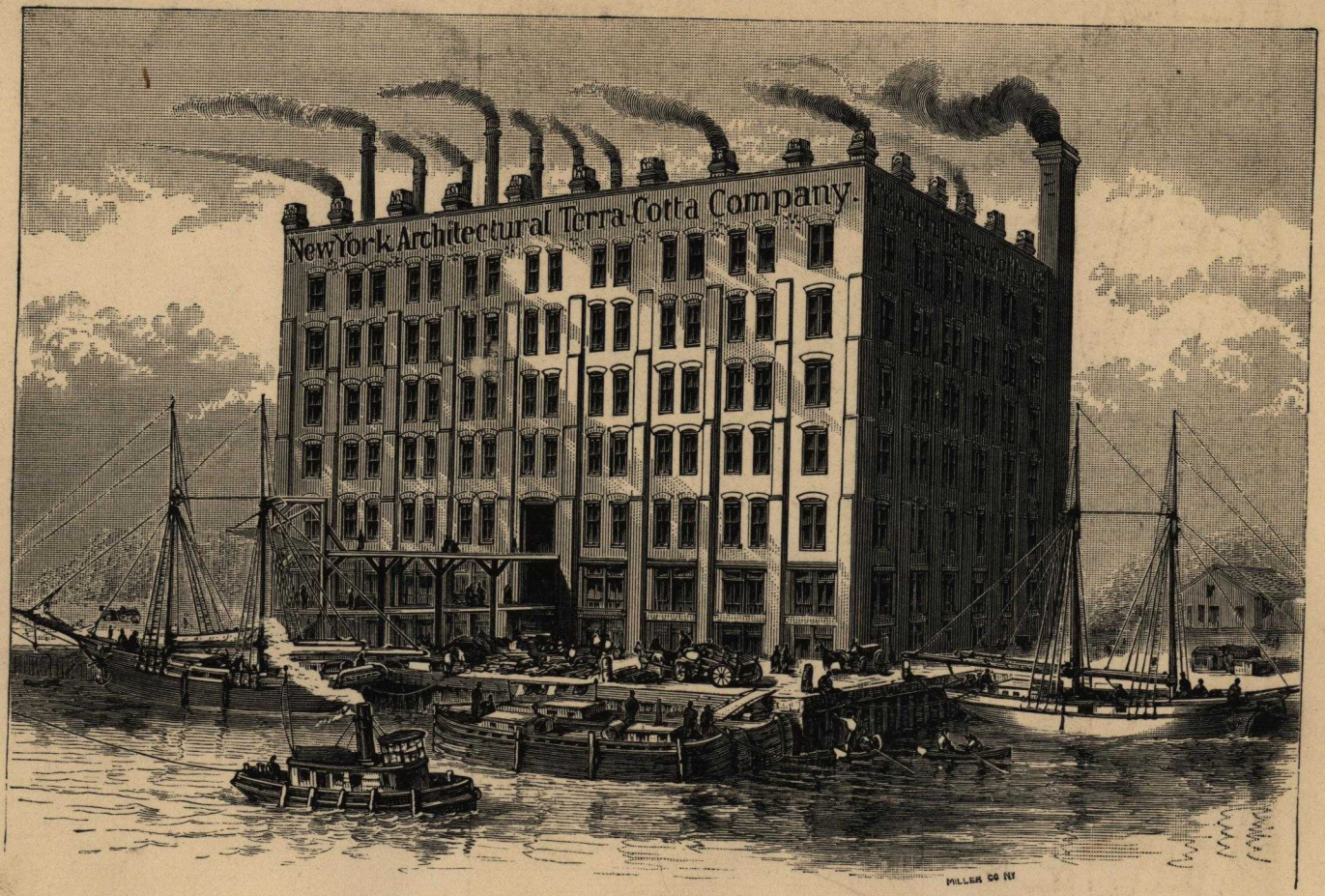
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OFFICE OF THE COMPANY,
POTTER BUILDING, 38 PARK ROW,
NEW YORK, MARCH 11, 1887.

INTRODUCTORY.

In presenting the *second* edition of our sketches of stock designs, we wish it understood that by this term we mean work that is applicable to uses in various buildings, and the models and moulds of which once made may be re-used as occasion or demand requires.

In this connection we would also state, that when we receive an order for a piece that may be used for general purposes, with permission to make it a stock article, it will be considered as stock work, and the buyer will have the benefit of the difference in price between stock and special work.

The sizes of all tiles, mouldings, panels, chimney tops, &c. are made to conform to brick sizes in height and width and thus are available for use in all ordinary brick structures. All work, unless ordered otherwise, is made with four inch bond to build into brick work, the same as stone.

A large supply of red work, particularly of chimney tops, coping, cresting, tiles, panels and moulded brick, is kept constantly on hand ready for shipment.

Buff or brown work, and all other work for which we have the models and moulds on hand, can be furnished at short notice.

We require from four to six weeks in which to produce architectural work from special designs, and therefore request our patrons to order early in order to insure prompt delivery of work.

We have thought best to note the price of each article upon its face, thus saving annoyance in referring from catalogue to price list. This feature of our catalogue has been highly commended by many architects who have written us on the subject.

To give an idea of the size of our works, and our capacity for production, we would in this connection, call attention not only to the cut of our works, opposite the title page, but also to the description of them in detail, which is published on page 15.

So much has been written and said in regard to the history, value and uses of terra-cotta in architecture, and its merits as a building material are so well known, that no dissertation is necessary at this time to insure its favorable consideration by architects and builders. We believe however that something remains to be said on this subject, and present the article which follows, with the hope that it may be of benefit to others, while admitting that its purpose also is to bring our material and our establishment into still greater prominence than at present.

In conclusion, we desire to express to the architects and builders of the United States our appreciation of their generous patronage and favor, and to assure them that it shall always be our highest aim to prove worthy of their confidence and support.

Respectfully,

NEW YORK ARCHITECTURAL TERRA-COTTA COMPANY.

TERRA-COTTA IN ARCHITECTURE.

A complete history of the use of clay as a constructive or decorative material in architecture, would be analogous to that of civilization itself with its advances and declines, for the authentic records of this branch of pottery are older than those of any other ceramic production, extending through forty-one centuries. The art of pottery is the most ancient and universal of all, including as it does, in its widest sense, all objects made of clay moulded into form while in a moist, plastic state, and then hardened by fire. (Encyclopædia Brittanica, article "Pottery," 9th Edition.) Connecting itself on the one hand with geology and chemistry, on the other with painting and sculpture, pottery is the natural outgrowth of two of the first necessities of man's existence: the preparation of food and the need of shelter. It is thus intimately identified with the domestic and social life of all races. Its productions are the most enduring of man's handiwork. Objects that have out-lived history are to be viewed not only as specimens of the condition of the art at the time of their production, but as exponents of the habits and domestic life, and the æsthetics of races long since passed away. The fact that in this practically imperishible material, we have presented to us more completely than in any other, the thoughts and works of artists in every successive age of the world, and in every country at any time civilized, from a period of almost fabulous antiquity down to the present time, shows the immense field for intelligent inquiry into the uses and advantages of the artistic employment of burnt clay.

It may at first seem a somewhat bold assertion, that the burnt clay of the ancients is identical in substance with the terra-cotta of to-day, but such is the fact. Terra-cotta is undoubtedly the oldest building material known to history, other than wood, and was probably employed in the making of domestic vessels before building was known as an art. The term by which this material is technically known, literally "cooked earth," dates from the period of the Italian renaissance, when terra-cotta was first largely used for architectural purposes. But the material itself, both in the form of bricks and in the more elaborate constructive and decorative forms, was largely used by the earliest builders. The fact that clay when subjected to great heat would become a hard brittle substance must have been discovered in primitive times by the kindling of fires on clayey soil, and the utility of this substance for domestic and architectural purposes have been suggested as the result. The fragments from the ruins of the most ancient temples and palaces reveal its application for these purposes. In fact, terra-cotta may be said to be prehistoric in its origin, for it is in some cases our only link with nations of the most remote antiquity. To terra-cotta we owe nearly all the information we possess in regard to the most ancient states and empires; bank notes, deeds of property, private transactions, public records, still being found in a good state of preservation among the ruins of ancient Babylon and other great cities of the past. The public records of the Assyrians were kept minutely inscribed on cylinders and tablets of clay which were afterwards baked. These furnish complete materials for transcribing the history of those times. To these records, revealed by the researches of Layard, Rawlinson and others, we owe much of our knowledge of the ancient Assyrians, Chaldeans, and Egyptians. The historical researches with reference to the Jews have also been much assisted by the inscriptions found on earthen bowls taken from the ruins of Babylon. It seems to us important to dwell somewhat on the historical aspect of this subject, before considering its modern development and uses, as so few seem to be aware that we

are not dealing with a new substance but rather with the oldest manufactured material to which we have historical references. Indeed, it may be well said that, so far from history perpetuating the records of terra-cotta, terra-cotta has perpetuated the records of history.

FIRST EMPLOYMENT.

The earliest reference to the use of burnt clay as a building material is to be found in the Eleventh Chapter of Genesis, in connection with the building of the Tower of Babel :—"And they said one to another, Go to, let us make brick and burn them thoroughly. And they had brick for stone, and slime had they for mortar."

Sun-dried and baked clay was employed by nearly all the great nations of antiquity in their earlier works. The granaries and storehouses of Egypt, the vast mounds of Nineveh and Babylon, the aqueducts and other remains of Roman times, testify how wide-spread was its use. Nor was it used merely as a building material. The clay cylinders of Nineveh have been the means of treasuring up the documentary records of a monarchy, of which other direct records have almost wholly perished ; while our museums are full of wonderful evidences, in their collections of Etruscan vases, of the beautiful art, the refined taste, and the poetic imagination of this mysterious people, whose very history is lost and whose race and era are disputed questions.

All nations whose early history is known to us, Assyrians, Egyptians, Greeks, Romans, Gauls, have left us records of their thoughts on terra-cotta.

"Art commenced with the simplest shape, and by working in clay." (John Winckelmann : History of Ancient Art, Vol. 1, page 193.) The invention of the art of working in terra-cotta was claimed by the Corinthians, who are said to have exhibited in their city specimens of the first efforts in it from the hand of the celebrated potter Dibutades. In order to preserve the likeness of his daughter's lover, he moulded in terra-cotta the shadow of his profile on the wall, and this production is said by Pliny to have been in existence when the city was stormed by Mummius. The invention was also claimed by the Samians, who maintained that Rhœcus and Theodorus, who were sculptors in bronze, and who flourished about 657 B. C., had first practiced the art of modelling. As the early sculptors cast their bronzes solid, like the Egyptians, who are supposed to have been the fathers of the art, it is evident that modelling in clay must have preceded working in bronze.

The Egyptians made small figures of terra-cotta covered with inscriptions. Referring to these portrait statues recently discovered in the secret recesses of the tombs around the bases of the Pyramids, Fergusson says : "Nothing more wonderfully truthful and realistic has been done since that time, till the invention of photography ; and even that can hardly represent a man with such unflattering truthfulness as these old colored terra-cotta portraits of the sleek rich men of the Pyramid period." (Architecture in All Countries, page 82.)

The ancient Greeks seem to have found stone too plentiful to make much use of brick, although many remains of terra-cotta have been found in statues, as well as some terra-cotta vases and bas-reliefs. Probably the largest undertaking in which brick was employed by them, was in the walls of Athens, which were built of brick on the side towards Mount Hymettus.

Pausanias mentions having seen at Athens two remarkable terra-cotta groups, representing Theseus killing the robber Sciron, and Heos (Aurora) carrying off Kephalos. The celebrated painter Zeuxis was accustomed to model in terra-cotta the subjects which he afterwards painted, and many of the artists of the later schools combined the plastic art with that of painting. The immense number of terra-cotta objects at Athens is alluded to by Demosthenes in his first Philippic. Many of the architectural members of the Greek temples were undoubtedly made of terra-cotta. Such remains, however, are rare, and appear to belong to the period of Roman domination rather than of Greek independence.

Bricks burned and unburned were employed in the construction of the Great Wall of China, the most stupendous work in the line of fortifications ever attempted by human hands.

The first genuine terra-cottas, as we now understand the term, were probably executed by the Romans about 400 years B. C., and very perfect

examples of this period are shown in the British Museum. Possibly some of the friezes, mouldings and bas-reliefs in the museum are even of earlier date. Pliny, in his 35th book, devotes a long chapter to the art of pottery, and mentions the names of many sculptors who wrought statues of clay, and also refers to many cities famous for pottery.

It would require too much space to enumerate all the various forms and subjects represented in terra-cotta by the ancients. Some of the extensive uses to which it was put are thus summarized by Mr. Birch: "It supplied the most important parts both of public and private buildings, as the brick, roof-tiles, imbrices, drain-tiles, columns, and other architectural members. It also served for pavements, and for the construction or lining of cisterns and aqueducts. Among its adaptations to religious purposes may be noticed the statues of the gods which stood in the temples, besides copies of them on a reduced scale, and an immense number of small votive figures. It also supplied the more trivial wants of every-day life, and served to make studs for the dress, bases for spindles, tickets for the amphitheatres, and prizes for victors in the games. Of it were made the vats or casks in which wine was made, preserved or exported, the pitchers in which it was served, and the cup out of which it was drunk, as well as all the various culinary and domestic utensils for which earthenware is used in modern times. It furnished the material for many small ornaments, especially figures, which are often of a comic nature, and supplied the undertaker with bas-reliefs, vases, imitative jewelry, and the other furniture of the tomb." (History of Ancient Pottery, Vol. 1, page 159.)

The Roman knowledge of pottery spread with their conquests, and fine examples of Roman brick and tiles are to be found in Germany, Spain, France and England.

The knowledge of the art of pottery probably at no time became entirely extinct in the East; but after the 4th century, in sympathy with the decline of all other arts, and the dying Roman civilization, the knowledge of this art gradually expired and was lost in Western Europe. The Romans made brick so extensively in Germany and in England, that it seems strange that such an art when once acquired should have been lost. Nevertheless, in the remains of buildings between the Roman times and the 13th century, there is no evidence of brick having been made in England.

During the darkness of the middle ages the art would probably have been entirely lost but for the monks, the great conservators of the arts and sciences during the middle ages, to whom we owe so much.

THE RENAISSANCE.

Pottery was made at Majorca by the Moors about the 12th century, and was introduced by them into Spain, when a little later they became, for a time, masters of that country. They also seem to have had a knowledge of the art of making enamelled ornamental tiles.

It is said that the people of Pisa also introduced Moorish tiles for church decoration about the 12th century, at which time the making of terra-cotta began to revive for architectural work in Italy.

During the 14th century, the manufacture of terra-cotta was carried on at Venice by the guilds of the Boccaleri and Scudeleri (or pitcher and plate makers), in whom the exclusive privilege of manufacture was vested. (W. R. Drake: Venetian Ceramics, page 9.)

In the plains of Lombardy, where stone is rare, clay was in the earliest times used as a building material, and Lombardy has often been called "the great country of brick." It was here where the art was nurtured, that this branch of industry attained its greatest development. In Italy, during the prevalence of the renaissance style, the art of terra-cotta was first accorded its due importance, and in many buildings of importance was moulded into forms so exquisite that it was raised into a material of value and dignity. To this period date the productions of that most famous of all workers in clay, Lucca della Robbia. No sculptured work of the great 15th century ever surpassed the Singing Gallery made by him for the Cathedral of Florence, somewhere between 1430 and 1440. The works of Lucca della Robbia, while not strictly terra-cottas, in the modern acceptation of the term, are among the most valuable examples of the use of burned clay in architectural decoration. From the time of Lucca della Robbia, ceramic ornaments invariably entered into designs for buildings. It was then that

the art of terra-cotta most flourished, and it is from the productions of this period that most of the inspiration of modern designs has been drawn, especially in those structures erected prior to the middle of the present century.

West of the Alps, clay was not so much used for building or decorative purposes. Nevertheless, in the south of France, in Toulouse, remarkable examples exist. On the Rhone, carved tiles are to be found in very elaborate cornices and balustrades. In the north of Germany, in Brandenburg, Luneburg, Hanover, and the provinces on the Baltic, brick and ornamental terra-cottas were largely used in preference to stone, not only for exterior work, but also for the interior of churches, halls and private dwellings, even the lofty piers of the cathedrals being moulded in clay.

ENGLAND.

In England, from the time of the downfall of the Romans until about the 13th century, there are few evidences of brick or terra-cotta work being used in important buildings, except such bricks as were taken from the ruins of the ancient Roman works, as at St. Alban's Abbey and other places, and it does not appear that brick became again a favorite material for public works until about the 14th century. One of the earliest specimens in existence is to be found in Little Wenham Hall, Suffolk, supposed to have been built about the year 1260.

The buildings of the Anglo-Saxons were usually of wood, rarely of stone, until the 11th century, and it is probable that the primative English churches are among the earliest stone buildings of Western Europe, after the time of the Romans. In these buildings some of the arches are constructed of bricks, all of them taken from some old Roman works.

The introduction of the Tudor style gave an impetus to the use of brick, moulded brick and terra-cotta. During the 15th and 16th centuries many large mansions were erected in England of brick, having moulded brick cornices and terra-cotta trimmings. It is said that Holbein introduced moulded brick and terra-cotta towards the end of the Tudor period. The friezes, cornices, and other highly ornamental work in terra-cotta, of the Manor House, at East Barsham, and the parsonage house, at Great Snoring, both in Norfolk, erected during the reign of Henry VIII., are worthy of particular notice, and the use of terra-cotta for decorative panels and bas-reliefs appears to have been popular during his time.

The gateway of York Palace, Whitehall, designed by Holbein, was decorated with four circular terra-cotta panels, which are still preserved.

During the 17th and 18th centuries many choice works in brick and terra-cotta were executed, and in many parts of London mouldings and cornices of this date still exist. About the middle of the 18th century Wedgwood began his career in the making of terra-cotta vases and other wares. About 1790 works were established at Lambeth, near London, for making terra-cotta and architectural details, statues and vases, by a lady of the name of Coade. These works were in existence until about forty years ago, when they were closed. Many of the leading sculptors who ranked high in the profession in the earlier days of the present century were employed at Coade's, and the durability of its productions can be attested by numerous examples. The capitals and other work in the oldest part of Buckingham Palace were made there, and although the stone work of this palace on all sides shows great signs of decay, the terra-cotta Corinthian capitals are as sharp as when they left the kiln. About the commencement of the present century other manufacturers began to establish themselves in competition with Coade's, and space fails us to even refer to the many works which were established after that date in London, and various parts of England, for the manufacture of terra-cotta and moulded brick. About 1848 the celebrated works of Blashfield, were established, in which James Taylor, now the superintendent of the New York Company, served his apprenticeship, and of which he became superintendent prior to his coming to the United States, in 1870.

UNITED STATES.

The first brick building erected in this country was built by Wouter Van Twiller, of Amsterdam, the governor appointed by the Dutch West India Company, soon after his arrival on Manhattan Island, about the year 1633. During the succeed-

ing years of the Dutch rule this building served as the official residence of the successive governors of the colony. The bricks used were brought from Amsterdam, and seem to have been of excellent quality, as but few were broken during the long and stormy voyage. The first bricks made in this country are probably to be credited to the people of the little colony of New Haven, and were burned about the year 1650.

There is no record, so far as we are aware, of the use of terra-cotta in this country until about the year 1853, when an attempt was made to introduce it by James Renwick, Esq., the well-known New York architect. In sketching the history of this first attempt to introduce ornamental terra-cotta in New York, we cannot do better than to quote from a letter recently received from Mr. Renwick :

"In 1853, I conceived the idea of introducing terra-cotta as a building material and substitute for cut stone work in New York. I went to Mr. Young, who had a factory for making glazed and other earthen sewer pipe, in 40th Street, and told him what I proposed doing, and asked him if he would manufacture it from my designs and under my supervision. I supposed it would be a source of large profits to him, as it would be more durable and ornamental, and less expensive, than the free-stones which were then in use. I made a contract with him for the belt courses and the cornice of the Tontine Building, and for the ornamental work of the St. Denis Hotel, and of three houses in 9th Street, between Fifth and Sixth Avenues. All these buildings are now standing, and the terra-cotta is as good as when first put up. We tried to introduce it into general use, but were violently opposed by the stone-cutters and builders who said it would not stand, and persuaded owners not to use it. The only other building it was used in, as far as I know, was in the Lafarge Hotel court. This building was destroyed by the fire which originated in Tripler Hall, which was in the rear and part of the hotel. Mr. Young, finding it impossible to introduce it, and having lost money in the attempt, gave up the manufacture and returned to making pipe. The fact is, we were ahead of the times, and could find no one who understood or would venture to use it. The buildings above mentioned, in which it was used, belonged either to my family or friends who had confidence in my judgment. About eight or ten years after this, Mr. Greenough, the sculptor, came from Rome to New York for the express purpose of introducing the use of terra-cotta. I happened to dine with him, and he broached the subject. The next morning I took him to see the work on the St. Denis Hotel, and related my experience, and he gave up the idea, being afraid of meeting the same difficulties I had experienced."

CAUSES OF FAILURE.

The efforts put forth in the attempt to introduce terra-cotta as a building material at New York City, and later on at Philadelphia, Louisville, Indianapolis and Chicago, failed for various reasons.

First, the men who undertook the work were potters, not builders. They were familiar with the use of clay in thin forms, as vessels to contain, not as masses to sustain weights. Their eyes were trained to hollow forms and circular lines. Architectural clay work demands accuracy of measurement, strength to carry weight, and good lines in perpendicular and horizontal continuity. It was not the fault of the men that produced failure, but the want of proper training or experience. To them is due great credit for pluck and ambition in undertaking the task.

Second, with but few exceptions, those who were interested in these early efforts to make architectural terra-cotta work, did not go about it in the right way. They were not seeking for terra-cotta, they were looking for a cheap substitute for stone. All the work made for them was painted to imitate stone. This can be verified by a visit to Pine Street Church, Boston, and Trinity Building, Broadway, New York, and by many smaller examples in Worcester, Boston, New York, Philadelphia, and almost every city of the West. These early efforts being, as thus shown, based on a false foundation, could not possibly succeed. Every ultimate success must be built on truth.

The patrons of the New Enterprise were compelled by the many difficulties to abandon the attempt, and terra-cotta to all practical purposes became a dead or lost aspiration to American architects.

SUBSEQUENT SUCCESS.

The rapid development of the West, that followed the settlement of Chicago and the opening of the trans-continental railroads, created anew the desire for a constructive and decorative material to be used as a substitute for stone. The excessive freights, and the lack of appliances for raising and setting heavy masses of stone in place, entirely precluded its use, even had not its first-cost of labor done so. To meet this revived demand, the iron makers set to work, and produced many examples, which are still in existence, in nearly every city of the Union. These also are falsehoods. They are compelled to hide under some alias, in most cases painted to masquerade as stone Finally, in 1867, a builder of Louisville, Ky., J. N. Glover, recognizing this demand, undertook to produce the same results in burnt clay. His method was to obtain a cast-iron specimen, make a mould of it in plaster, and then with simple clay, tempered to working condition, make an interior impression of the mould. This gave a clay copy of the iron model, which was, of course, reduced in size by the burning. It was then painted and sold to builders,—a clay imitation, of an iron imitation, of a stone. But J. N. Glover supplied a material necessity. Meeting with some success he moved his works to Indianapolis, Ind., where there are extensive clay deposits in the Block Coal Measures. Here also he made much work and met with success. In 1868, he sold his works to Hovey & Nichols, of Chicago, Ill., who organized the Chicago Terra-Cotta Co., and in 1869 moved the works to Chicago, with Mr. Glover as superintendent. This company did not succeed, and in 1870 found their capital gone, and themselves deeply in debt. One of the directors, an architect, knowing from his studies that the failure came from ignorance, not from lack of merit in the material, opened correspondence with some of the well-known firms of Europe, who kindly gave him much information on the subject. The result of this correspondence was, that they engaged an English expert to visit their works in Chicago. When he arrived in Chicago and examined the clays, he said he considered them better calculated for architectural terra-cotta work than any clays he had ever seen. The difficulty had been with the processes of manufacture, not in the material.

The company was at once reorganized, as the Chicago Terra-Cotta Works, and in August, 1870, they began the introduction of *architectural terra-cotta*, jointed and made so as to take its own place in the building, leaving off all paint, and presenting to the world its own face—thus, for the first time in America, boldly making its mark as a true and honest building material.

The Chicago Terra-Cotta Works no longer exist under that name, for in 1881 they passed into the hands of the Northwestern Terra-Cotta Co., and are now in very successful operation, giving employment still to some of the workmen who, in 1867, began in Louisville, and who have followed the works through the changes of twenty years.

From these works have grown the Perth Amboy Terra-Cotta Co., incorporated in 1879; the H. A. Lewis Works, established the same year; the Boston Terra-Cotta Co., incorporated in 1880; and the New York Architectural Terra-Cotta Co., incorporated in 1886.

THE NEW YORK COMPANY.

The New York Architectural Terra-Cotta Company was incorporated under the laws of the State of New York, on the 21st day of January, 1886, for the manufacture and sale of "Architectural and Decorative Terra-Cotta and Brick."

A block of ground, containing nearly two acres, with a water frontage of over two hundred feet on the East River, was purchased at Ravenswood, Long Island City, opposite 58th street, New York, for the location of the new factory. Excavations for the foundations were begun February 1st, and the first brick was laid on February 15th. On the 10th day of May, the factory was under roof and the first kiln of terra-cotta was burned; being only eighty-four working days after ground was first broken, and only seventy-two days after the first brick was laid. From this very short period should be deducted fourteen and a-half days of stormy weather, so that in point of fact, the building was got under roof in less than two months.

The first order was received April 30th, and delivered June 1st. This was followed by a number of large orders, and about one hundred and twenty skilled workmen, collected from various parts of this country and Europe, were employed, under the superintendence of James Taylor.

On Saturday evening, the 17th of July, when the Company was just beginning to turn out a considerable volume of work, the main factory building was almost totally destroyed by fire. Early Monday morning, the Company had a large force at work clearing up the ruins, while another gang of carpenters was engaged in erecting temporary sheds. In these rude structures the manufacture of terra-cotta was continued while the works were being rebuilt, and the Company was able to fill all its orders with but slight delay or inconvenience to its patrons. The first of August, as soon as the insurance was adjusted, the work of rebuilding was commenced and pushed rapidly forward, and by the middle of October the factory was again under roof. A few weeks later, all the machinery was once more in place, and the works in even better running order than before the fire.

During the season the Company executed orders for such well-known architects as E. D. Harris, S. D. Hatch, H. J. Hardenburgh, Arthur Crooks, Rossiter & Wright, Renwick, Aspinwall & Russell, R. H. Robertson, and W. C. Hazlett, of New York City; G. L. Morse and Robert Dixon, of Brooklyn; Lindsay & Forbes, of Newark, N. J.; W. A. Poland, of Trenton, N. J.; R. G. Kennedy, of Philadelphia; S. W. Foulk, of Newcastle, Pa.; Hornblower & Marshall, and W. M. Poindexter & Co., of Washington; John R. Church, of Rochester; M. E. Beebe & Sons, of Buffalo; Wm. Scott & Co., of Detroit; McDonald Bros., of Louisville, Ky.; and many others whom space fails us to mention.

Specimens of the work turned out by the Company may be seen in the Bank Building, Smethport, Pa., Beebe & Sons, of Buffalo, architects; St. John's Parish Hall, Washington, Hornblower & Marshall, architects; building for Southern Baptist Theological Seminary, Louisville, McDonald Bros., architects; Episcopal residence, Lafayette Place, New York, Renwick, Aspinwall & Russell, architects; Railroad Men's Reading Room, 45th Street and Madison Avenue, New York, R. H. Robertson, architect; building for St. Vincent's School, Detroit, Wm. Scott & Co., architects; Picture Gallery for M. Arnot, Esq., Elmira, N. Y., Renwick, Aspinwall & Russell, architects; Church, East 62d Street, New York, S. A. Warner, architect; building for New York Steam Co., 58th Street and Madison Avenue, Wm. C. Hazlett, architect; and in many other public and private buildings in New York City, Brooklyn, Newark, Trenton, Philadelphia, Washington, Rochester, Buffalo, Detroit, Chicago, Louisville and other leading cities.

DESCRIPTION OF WORKS.

The works of the Company are located at Ravenswood, Long Island City. The premises are bounded on the east by Vernon Avenue, and on the west by the East River, and can be conveniently and quickly reached, via James Slip, 7th Street, 34th Street, or 92d Street ferries, and the Vernon Avenue cars, which pass the premises, in from fifteen to forty minutes, from any part of the city.

The main building is 177 feet by 130 feet, built of brick, and six stories high. The walls contain a million and a half of bricks, and there are three acres of floor room in the six stories. The factory was erected especially for its purpose, and is equipped with every contrivance known to modern science for the perfect manipulation and burning of clay.

The cellar contains the clay pits, engine, and the machinery for preparing clay. The clay pits have so large a capacity for prepared material, that the Company is enabled to make all ordinary contracts of one distinct stock, thus ensuring absolute uniformity in composition and texture of the stock, and consequent evenness of shrinkage and color of the finished work—a result never before attained.

On the ground floor are located the kilns, eight in number. These are so constructed that they can be loaded, burned and delivered in eight days; so that on demand a kiln of work per day can be produced. This will be found of great advantage in the prompt execution of orders requiring quick despatch. On this floor is also located the fitting room where the work is selected, fitted and marked previous to shipment. The fire-proof offices and draughting room are also on this floor.

The second story contains the studio, where fine tile work is executed by skilled finishers.

The balance of the second floor, and the whole of the third and fourth floors, are given up to the pressing and finishing departments. These floors are capable of holding enough work to more than fill all the kilns, thus furnishing ample drying space at reduced cost and risk of handling.

The fifth story contains the model room, and modelling studios. Here is to be found every convenience for making full sized details, which the Company freely offers to the use of architects and customers.

The new factory is equipped with a complete system of automatic sprinklers and stand-pipes, with a duplex fire-pump located in a fire-proof compartment, and every possible precaution has been taken against any possible recurrence of the late disaster.

The Company has an efficient staff in all departments, headed by that veteran clay worker, James Taylor, late of the Boston Company, who by his productions is favorably known to architects and builders wherever terra-cotta is used. All that his long experience in manufacturing, and sixteen years service in meeting the demands of the local markets could suggest, has been adopted in the construction and equipment of the new works.

The proximity of the works to the metropolis, affording not only ready communication between the manufacturers and setters of the terra-cotta, but also opportunity for architects and builders to inspect their work in process of manufacture, cannot fail to be appreciated, and should prove of great advantage in promoting and insuring satisfactory execution, thus enhancing the value of terra-cotta as a building material.

ADVANTAGES OF TERRA-COTTA TO ARCHITECTS.

Foremost among the advantages of terra-cotta as a building material, may be mentioned the facility it affords to architects to see the actual full-size details of the more ornamental portions of their design, before the work is burned, as, where no repetition is intended, no moulds are used, and the work, which is afterwards to be burned and take its place in the building, is the model itself. It thus bears the impress at once of the mind of the designer, and the skill and knowledge of the modelling artist. It can be studied, improved, or modified, and when entirely satisfactory, burnt. It is, therefore, a far better reflex of the personality of the architect than can possibly be the case in any other building material.

There is another fact which should, perhaps, be pointed out with reference to terra-cotta in this connection, that is, that it must always remain a material in itself—it should never be regarded as a rival to stone. Terra-cotta may not compare with masonry in accuracy of lines; but with it you can produce the most beautiful surface, the most charming variety of tints, and the most brilliant effects of light and shade. There is no other material which can be so readily impressed with the conception of the artist as "clay in the hand of the potter." No process in any handicraft is so beautiful as that of the modeller in clay. The ease with which the plastic clay answers to the touch of the hand, taking a whole succession of symmetrical shapes, and seemingly, as it were, instinct with the life and thought of the modeller, makes the art beautiful and striking beyond all others, in which the desired form can only be attained by comparatively slow and laborious methods.

DURABILITY.

The question is often asked, whether terra-cotta is as durable as stone. We have no hesitation in answering in the affirmative. The fact that burnt clay of a good quality is almost indestructible is proved by the remnants of bricks and tablets discovered by Layard and Rawlinson in the ruins of Babylon, in an almost perfect state of preservation. A small statuette taken from the ruins of ancient Thebes, which is believed to be not less than thirty-three hundred years old, is covered with hieroglyphics as sharp and perfect in outlines and details as the day it was carved and burnt. We have many modern illustrations also, in the magnificent old brick and terra-cotta structures still to be met with in different parts of England and the Continent, affording under the most trying conditions of climate valuable evidences of the durable nature of terra-cotta.

One of the choicest specimens of ancient terra-cotta in existence, is exhibited in the South Kensington Museum, in London. It is a medallion eleven feet in diameter, bearing the arms of King René of Anjou, surrounded by a massive border of fruit and foliage, and is supposed to have been made in the year 1453. It was exposed to the action of the weather for more than four hundred years, fixed in the front wall of a villa near Florence.

Another fine example is to be found in the church of San Gottardo, in Milan. During five centuries the tower of this church has braved the inclemencies of the seasons without noticable traces of decay appearing in the terra-cotta work, which is of the most elaborately carved and delicate workmanship. A close inspection of this tower also reveals the interesting fact, that the architect, mistrusting, perhaps, the resisting powers of terra-cotta against the stress of weather, took care to furnish the windows with coigns of stone as a protection — vain precaution, as it is the stone work which has suffered from the assaults of time and not the terra-cotta.

Coats of arms of terra-cotta, inserted in the walls of Hampton Court Palace, which have been exposed for three centuries and a-half to an English climate, are practically unharmed by the action of the weather, while the brick and stone, and almost every other material used in the construction of the palace, is more or less worn and decayed.

In his report on the terra-cottas exhibited at the Paris Exposition of 1867, Mr. Henry Cole says, with reference to the durability of terra-cotta, "It is more durable than even ordinary granite, as may be seen on the lodge in Merrion Square, Dublin, which was built about 1786. The granite mouldings there are cut in stone from the Wicklow mountains, and they are all worn away and rounded by the action of the rain, while Coade's terra-cottas, dated 1788, are as sharp as when they were first placed on this Lodge." (Report on the Paris Universal Exhibition of 1867, Vol. 2, page 415.)

There is at Buckingham Palace a number of Portland stone pedestals supporting terra-cotta vases of handsome design. The pedestals, though of the same age as the vases, have so far decayed that few of the carved mouldings are distinct, while the bas-relief figures on the vases are as sharp and perfect as when they left the kiln.

When it was first proposed to use terra-cotta in the South Kensington Museum, it was submitted to various tests; among others, the underpinning of some of the lower members on two sides of an open court were built, the one of stone and the other of terra-cotta. After a time it was seen that the stone had changed color and showed premonitory symptoms of disintegration, whereas the terra-cotta had as clean and perfect a face as when first put up.

When it was a subject of debate in London whether stone paving or terra-cotta tiles should be used for the foot-ways of Westminster Bridge, the architect was anxious to test the wearing capabilities of the two materials for foot traffic, and had an interesting experiment tried by grinding together with sharp sand and water a terra-cotta tile 12 inches square and a similar piece of York stone. The friction was continued for five hours, at the end of which it was found that the terra-cotta tile had lost one-sixteenth of an inch of thickness, while the hard York stone had lost one-quarter of an inch. Tiles were adopted, and after having stood the wear of six or seven years in as busy a thoroughfare as any in London, are reported by Mr. Barry, in his paper, to show no serious signs of wear. Mr. Barry also says, "If made now, (1871), they would, however, be pressed by machinery and be much harder and more durable." (Paper read before the Royal Institute of British Architects, by Charles Barry.)

Innumerable other examples might be cited, proving the superior durability of terra-cotta for building, as well as for ornamental purposes, but the few cases referred to seem to us sufficient. It is a fact beyond dispute that in faithfully-made and well-burnt terra-cotta, we have the great and only lasting triumph of man over natural productions. For timber will rot, stone, even granite, will disintegrate, iron will oxidize, these and all other materials will succumb to the action of fire, but properly-made and thoroughly-burnt terra-cotta will pass through centuries, and be the last to yield to those influences to which all natural productions must give way — the only material known which is not only absolutely fire-proof, but also, in all architectural employments, practically time-proof and indestructible.

We cannot pay a more eloquent tribute to the durability of terra-cotta, than by quoting a few sentences from Sir Charles Lyell's "Antiquity of Man." He says in his third chapter: "In the vast changes that this planet has undergone few things remain to mark the arts of its earlier inhabitants. Flints, spear-heads, arrow-heads, fragments of iron, of bronze and of pottery are almost all that re-

main. Of the latter, burnt bricks, jars, vases, the human figure in burnt clay, are found in the remains of submerged towns, in the channels of the Nile, and in Upper Egypt, in the Mexican buried ruins of America and elsewhere, as the enduring types of civilization of peoples and races whose names even are not known in the pages of history. Granite disintegrates and crumbles into particles of mica, quartz and felspar. Marble soon moulders into dust of carbonate of lime, but hard well-burnt clay endures forever in the ancient landmarks of mankind."

INDESTRUCTIBILITY.

It would be very interesting to trace the steady growth of the builder's art, from the mud hut of primeval times to the magnificent structure of the present day. In the first days of the human race, with forests almost untouched, and the necessity to clear the same for the cultivation of the ground, wood was almost universally used for building purposes. As the forests became exhausted, wood gave place to clay, to stone and to iron. As the cities grew in size and land became more valuable, buildings were squeezed in closer together, and the danger from fire constantly increased. Architects and builders were thus led to pay more attention in construction to the use of imperishable material. Necessity creates a demand, and it became a necessity to construct large buildings and high buildings. Not less necessary was it that these buildings should be indestructible. The use of stone, for many years so common and almost universal, was found by experience to be not only dangerous but expensive. The difficulty of obtaining a really durable building-stone, and the practical experience required in its selection, is well known to architects. "In erecting large buildings," says Mr. Arthur Beckwith, "it is difficult to supply quickly, enough stone of a durable quality from one quarry. Nearly all stone is not fire-proof, but cracks when exposed to high heat. These causes, without deprecating the use of stone, point to the desirability of finding a durable and fire-proof building material, which can be relied on always and be supplied in large quantities. This presents an opening for the use of terra-cotta, a material which has stood the crucial test of firing. The true qualities of terra-cotta in its application to architecture consist in its merits as a decorative fire-proof material, possessing the three essentials of color, durability and economy. When treated with due regard to construction, so as to fulfill its part in building as honestly as the brick work of the wall itself, the high capacities of the material to receive artistic treatment admit of the impress of original art being reproduced for the uses of the architect, in an almost imperishable substance." (Report on the Terra-Cottas at the International Exhibition at London, 1871, pages 52 and 53.)

The great fires of Chicago and Boston, which occurred shortly after the above lines were written, bore conclusive testimony as to the accuracy and wisdom of Mr. Beckwith's observations. It is an astonishing statistical fact, that eighty per cent. of all the buildings erected in this country are sooner or later destroyed by fire. Public safety, as well as economy, is fast demanding that buildings should be constructed of non-combustible material. Fire insurance companies are becoming each year more rigid in their requirements and more particular in regard to the building material employed. The well-known Mutual Insurance Companies of New England have made it their policy only to insure parties who have adequate means of fire protection and prevention, and have thus been able to assume risks at from one-quarter to one-tenth the premiums exacted by the older stock companies. The time is not far distant when the careful insurer will no longer be asked by any company to pay a premium upon the carelessness of others who are insured in the same company.

These facts, together with the late changes in the solidity of buildings, have notably favored the introduction and increased use of architectural terra-cotta. Well-made and thoroughly-burnt clay is the only material thus far discovered which is absolutely indestructible by fire, and which has opposed all the other elements with the desired obstinacy. In this respect, terra-cotta possesses an element of strength which is not shared either by stone or iron. Heat which would disintegrate stone and fuse iron, has merely the effect of rejuvenating terra-cotta and giving it the bright, fresh appearance of having just left the kiln. Having passed through, in burning, a heat of over 2,800 degrees Fahrenheit, or the degree at which soft iron fuses,

no heat to which terra-cotta is ever likely to be exposed, even amidst the fiercest flames of a Boston or Chicago fire, is able to affect it.

STRENGTH.

The strength of well-made terra-cotta is surprising. The following table has been prepared from tests made, and is a safe guide as to the approximate strength of terra-cotta properly moulded and burned, and also for the stones commonly used for building purposes. By this table it may be seen that the crushing strength of all kinds of terra-cotta is sufficiently great to meet all the probable requirements in that direction.

	CRUSHING STRAIN PER INCH.
1. Terra-cotta not exceeding 20% hollow space	6,000 lbs.
2. Terra-cotta not exceeding 30% hollow space	5,000 "
3. Terra-cotta not exceeding 40% hollow space	4,000 "
4. Terra-cotta not exceeding 50% hollow space	3,000 "
BRICK.	
1. Extra hard machine stock brick	8,000 "
2. Medium hard machine stock brick	4,000 "
3. Extra hard common hand-made brick	3,000 "
4. Medium hard common hand-made brick	2,000 "
STONE.	
1. Quincy granite (hardest)	15,000 "
2. Pennsylvania marble (hardest)	8,000 "
3. Sandstone (strongest)	5,000 "
4. Sandstone (common)	3,000 "

Terra-cotta for building purposes is generally made of hollow blocks formed with webs inside, so as to give extra strength and keep the work true while drying. This is necessitated because good, well-burned terra-cotta cannot safely be made of more than about 1½ inches in thickness, whereas, when required to bond with brick work, it must be at least 4½ inches thick. When extra strength is needed these hollow spaces are filled with concrete, which greatly increases the crushing strength of terra-cotta, although alone it is able to bear a very heavy weight. A solid block of terra-cotta of one foot cube has borne a crushing strain of 500 tons and over.

Some exhaustive experiments, made by the Royal Institute of British Architects, are shown in the following table :

	CRUSHING WEIGHT PER CUBIC FOOT.
1. Solid block of terra-cotta	523 tons
2. Block of Portland stone	292 "
3. Hollow block of terra-cotta unfilled	186 "
4. Block of Bath stone	104 tons
5. Stock brick	82 "
6. Hollow block of terra-cotta slightly made and unfilled	80 "

Tests made in Boston, in May, 1885, by the Massachusetts Institute of Technology, give the following results :

	CRUSHING WT. PER SQ. IN.	CRUSHING WT. PER SQ. FT.
Terra-cotta block 12-inch square, buff,	7,000 lbs.,	or 482 tons
Terra-cotta block 12 " " red,	4,976 "	" 321 "
Terra-cotta block 12 " " grey,	3,927 "	" 282 "
Terra-cotta block 12 " " brown,	3,772 "	" 271 "

LIGHTNESS.

Another important practical question is that of the comparative weight of stone and terra-cotta, and consequently of the comparative cost of transportation. With terra-cotta, unlike stone, no unnecessary or dead weight has to be carried. Stone is brought to the building in masses and there worked up, and the necessary quantity of waste makes an alarming amount of useless weight, which has to be transported. With terra-cotta, on the other hand, where the work is necessarily modelled in the work shops and studios of the manufacturer, and moreover is (for evenness in burning) made of moderate thickness and hollow, the weight to be conveyed is reduced to a minimum, and the work, having been fitted previous to shipment, once at the building, nothing remains but to set it in its proper place.

From the following table it will be noted that, as compared with the ordinary building stones, terra-cotta weighs considerably less than half as much :

	WEIGHT PER CUBIC FT.
Quincy granite	168 lbs.
Sandstone	103 to 176 "
Ohio or Buenavista stone	144 "
Terra-cotta, solid block	122 "
Terra-cotta, in hollow cubes, 1½ inches thick, as usually manufactured	68 "

The lightness of terra-cotta, combined with its enormous resisting strength, and taken in connection also with its durability and absolute indestructibility, renders it specially desirable for use in the construction of all large edifices, both public and private.

An example of the best use of terra-cotta, both

for constructive and ornamental purposes, is to be found in the new Potter Building, New York, which contains about 540 tons of terra-cotta, executed at the works of the Boston Company, under the superintendence of James Taylor. No building yet erected in this country is more solidly constructed, and the weight supported by the piers and arches is simply enormous. If stone had been used in place of terra-cotta, the weight to be supported would have been more than doubled, and the risk and cost of handling would have been greatly increased, to say nothing about the first-cost of stone work, as heavily carved and richly ornamented as the terra-cotta work used in this building.

COMPARATIVE COST.

Another question of much interest and importance to all architects and builders, and one often asked in connection with the use of terra-cotta, is its cost as compared with stone as a building material. In answering this inquiry we cannot do better than to quote from the elaborate paper on the subject of terra-cotta, read before the Royal Institute of British Architects by Mr. Chas. Barry, architect. He says :

"Speaking in general terms, I think that I may say that taking cube for cube as fixed in a building, terra-cotta costs a little less than soft stone, while, as regards Portland, the average difference will be about 35 to 40 per cent. The greatest economy is to be found where there is much work, either in under-cutting of mouldings (which costs nothing extra in terra-cotta over ordinary mouldings), or in artistic modelled work (where under-cutting and almost full relief of features is as cheaply produced as low relief)—in these cases the economy is several hundred per cent. over hard stone."

In illustration of these facts, Mr. Barry gives a statement of the comparative cost of the use of terra-cotta and stone in a number of buildings erected in London, in some of which plain designs, and in others of which rather elaborate designs, were used.

In considering this point, it may also be said that the comparative cheapness of stone and terra-cotta is determined partly by locality, partly by mode of application, and partly by the quality of the workmanship. In some districts in which good stone is abundant and readily accessible, and to which terra-cotta would have to be imported, it might be an open question as to the comparative cost of the two materials for constructive purposes. If, on the other hand, both the stone and terra-cotta have to be imported, the terra-cotta would be found, in most cases, the cheaper material.

Again, the comparative cheapness of the two materials depends largely upon the extent to which each block is to be repeated. In work which is to be duplicated, the moulds once made, the pressing and finishing is labor which may be repeated as often as required, and at comparatively small expense. The true economy in the use of terra-cotta lies in the production of a number of articles of the same pattern. Whether few or many are required, the cost of making the models and moulds has first to be taken into account, and if it can be distributed over a large number of blocks the cost per cubic foot is considerably reduced. This will also explain the low cost at which stock work can be sold as compared with designs which have to be specially made.

The actual cost of terra-cotta, as compared with stone, varies also according to the quality of work and the degree of ornamentation required. Here, too, the advantage is on the side of terra-cotta. As Mr. Holroyd puts it : "There are all degrees of modelling, as there are all degrees in carving, from very good to very bad ; but, taking really first-class work in spirit and execution, as the basis of calculation, it is safe to say that terra-cotta will cost least, even in cases where there is little or no repetition, whilst if there is repetition the difference in cost soon becomes considerable." (Paper read before the Leeds Architectural Association, by Jas. Holroyd.)

GENERAL OBJECTIONS.

No doubt there are, unfortunately, notable instances of bad terra-cotta, as there are of bad materials of almost every description; but this much is to be said of terra-cotta, that every year increases the knowledge, skill and appliances brought to bear in its production, and the quality of the work is constantly improving. It has too often in the past been resorted to by some architects for its supposed cheapness, and too often it has not been the best

made work by the best maker, but the cheapest work by the lowest priced maker that has been adopted. By this standard, terra-cotta has been judged, and in some cases found wanting, whereas, there is no material in which there is a greater mar gin of skill and superiority, or for inefficiency and failure.

Another objection to the use of terra-cotta, and one in which it must be confessed there has been some force, is that it is slow of production. This, too, is most often to be traced to the fact that the work has been intrusted to producers with insufficient plants and at prices which would never enable the owners to increase their facilities. Too often, also, manufacturers, with a view of effecting a saving in the amount of fuel used, have built kilns of enormous size, which take from fifteen to twenty days to burn. The best results are to be obtained by the use of moderate-sized kilns which can be "turned over" — that is to say, loaded, burned and drawn, in the shortest possible time. This result has been aimed at by the New York Company, whose kilns, of moderate size, can be loaded, burned and unloaded in a period of eight days, so that on demand a kiln of work per day can be produced.

USES.

The modern employments for terra-cotta architecturally, are for capitals, cornices, cresting, coping, chimney tops, doorways, finials, friezes, gables, keys, mouldings, medallions and busts, mullion windows, panels, roofing tiles, tiles, terminals and window heads.

For interior uses, terra-cotta is used for fire-place facings, hearth-slabs, mantels, and in fire-proof buildings for base-mouldings, base-panels, and a variety of other uses.

Terra-cotta can also be used to advantage for all kinds of garden decoration such as balustrades, flower baskets, vases, and many other horticultural appliances.

CHIMNEY TOPS.

A large demand has grown up of late for terra-cotta chimney tops, which are made with open as well as protected tops, and are produced in all desirable shapes and sizes. They are made to conform to brick sizes, and when placed on common brick chimneys make a highly ornamental finish, and are especially recommended as a cure for smoky chimneys, which are generally caused by the wind blowing into the top of the chimney and obstructing the ascending current of smoke.

ROOFING TILES.

Terra-cotta is also largely employed in all countries in the shape of thin plates of burned clay, as a roof covering. Tiles of burnt clay were first introduced in Roman architecture, and in the middle ages were extensively employed in England for buildings of moderate cost. The most famous palace in Europe, the Tuileries, owed its name to the fact that the garden of the Louvre, in Paris, was formerly used as a tile yard. The plain tiles which are now in general use in England and in this country, weigh from two to two and one-half pounds each, and expose about one-half of their surface to the weather, four hundred of them covering a "square," or one hundred superficial feet of roof surface. The employment of tile roofing adds greatly to the picturesque look of buildings.

The great advantage of a tile roof is that it is a non-conductor, and therefore cooler in the summer season than any other kind of roof. Tiles are also better protection against lightning than the lightning rod, as the latter attracts electricity, while the former is a non-conductor. (Insulators made of terra-cotta are extensively employed on telegraph lines in England and in portions of America.) The rain water collected from a tile roof is much purer and cleaner than that collected from any other kind of roof, as the tiles are very smooth, and no dust or soot settles upon them. Tiles are also indestructible, and are not affected by heat or cold. They will not crack and slide off the roof like slate, leaving the roof exposed. After doing service on one structure the tiles can be taken off and used on other buildings.

FIRE-PLACES.

The use of terra-cotta tiles to form the backs of fire-places was very common in earlier times, and tiles so used are still to be seen in the great hall at Kenilworth Castle. Most of the fire-places at Bodiam Castle, Sussex, are also constructed in this manner, and the oven by the side of the larger fire-place in the hall is also built of tiles. The use of terra-cotta for this purpose has been recently

revived, and there is now a large and growing demand for tiles to form the back of fire-places, and for facings in wooden mantels, and also for terra-cotta mantels. The ease and economy with which terra-cotta can be moulded into ornamental facings for mantels or finishings for fire-places, have stimulated the production of a great variety of facings for these purposes, and especially for the latter.

MOULDED BRICK.

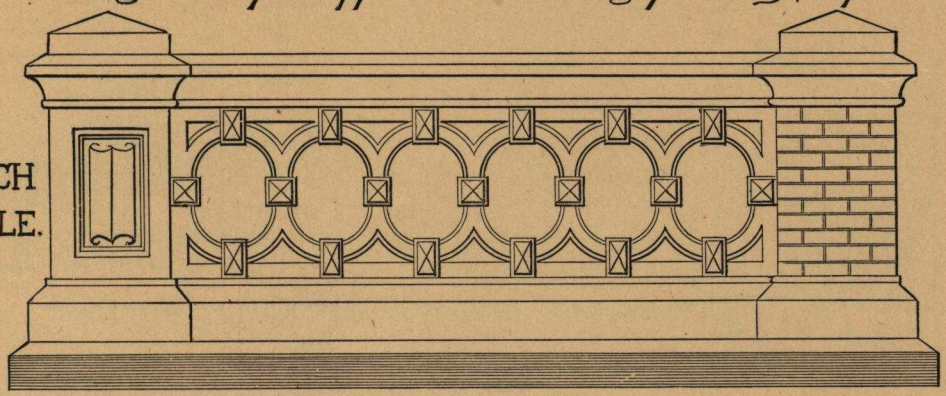
Another important branch of terra-cotta manufacture is that of moulded brick, found so important and desirable in setting terra-cotta, and for other purposes in the construction of brick buildings. There has been long a want and embarrassment felt in this market, from the fact that moulded brick could only be procured from a long distance, and often after vexatious delays in delivery. These difficulties the New York Company proposes to remedy, by keeping in stock constantly, the best quality of moulded brick, in a large variety of popular shapes, ready for immediate delivery.

CONCLUSION.

We have touched above on a few of the many important uses to which terra-cotta can be applied. Much more might, of course, be said as to the application of this material for decorative and architectural purposes, and for interior as well as for exterior work, but the suggestions already made, taken in connection with the numerous pages of designs which follow, are sufficient to show the great variety of uses to which it can advantageously be applied.

PLATES.

Prices given upon application stating quantity required.



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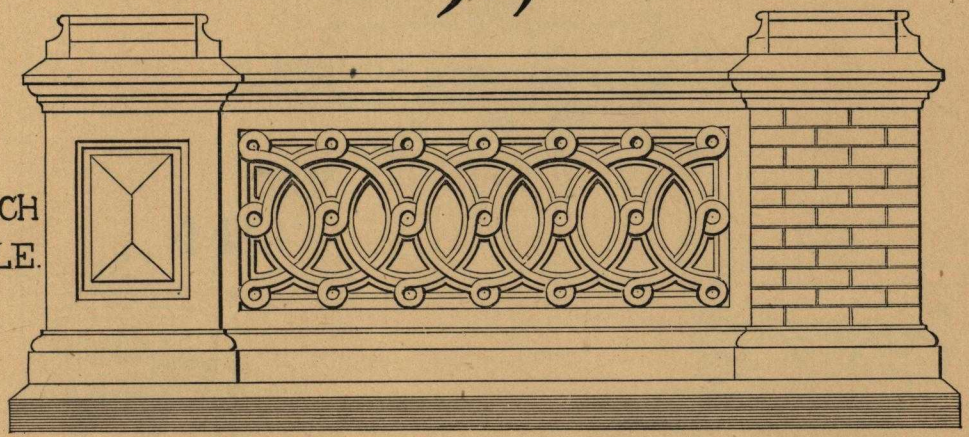

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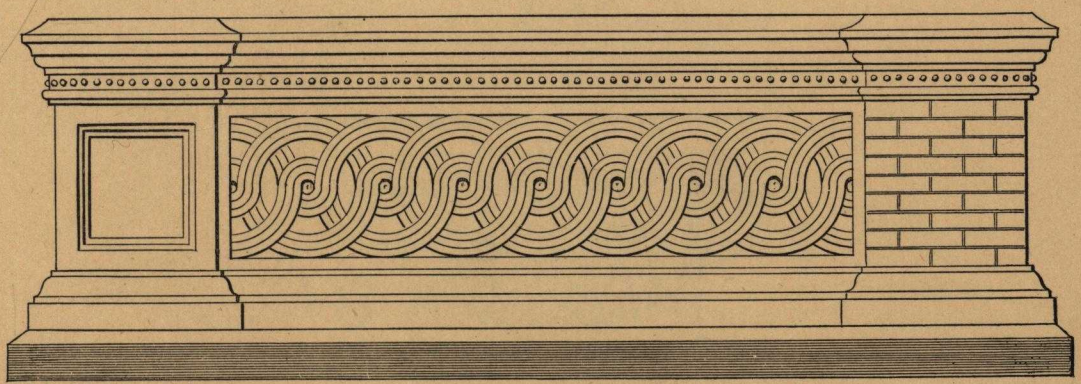

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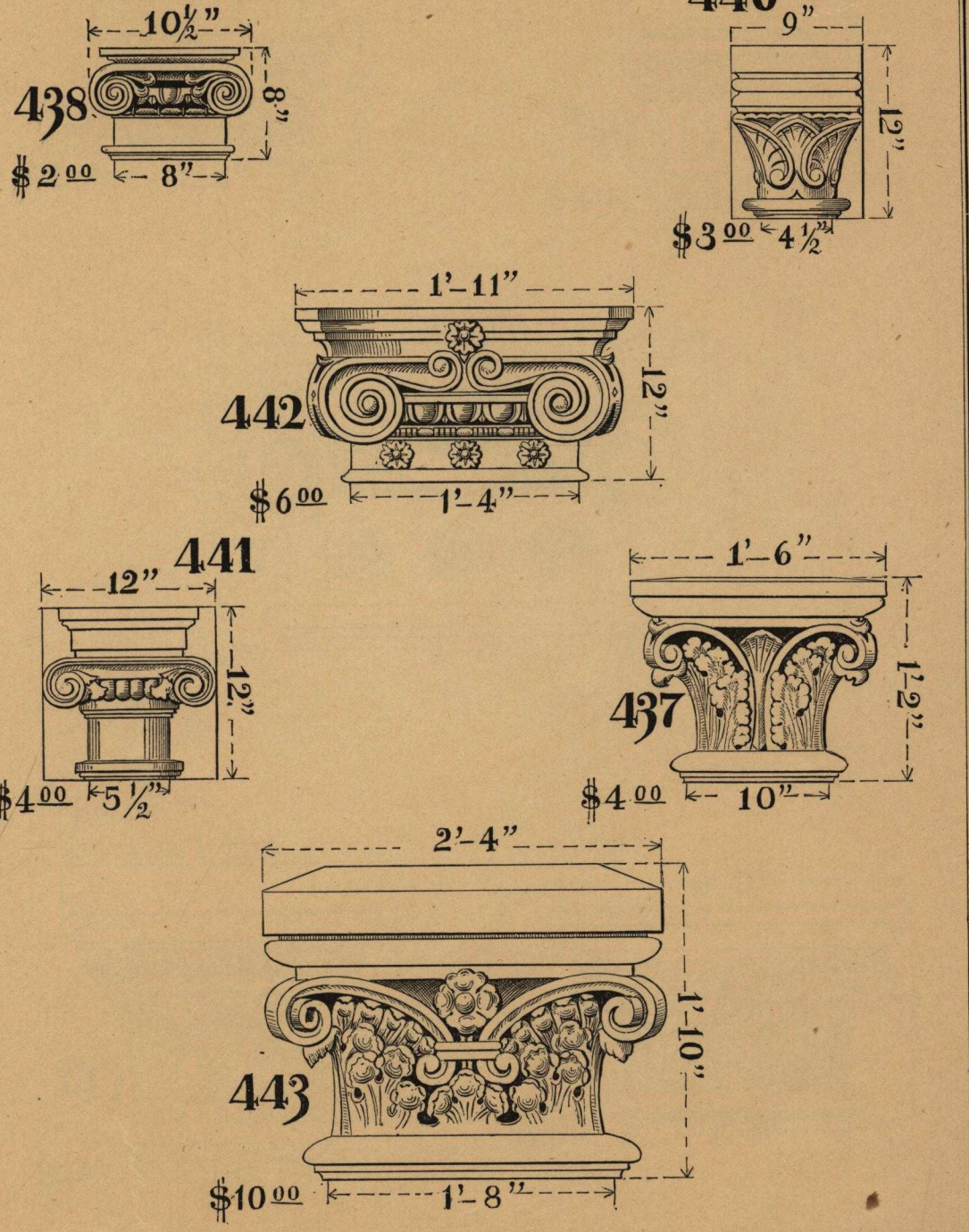
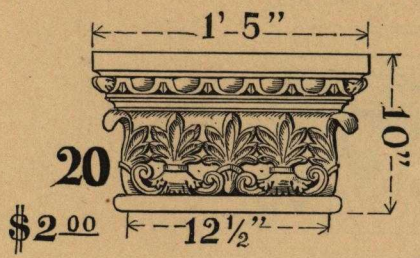
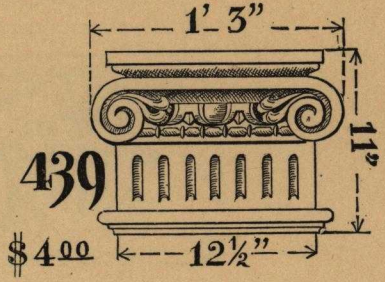
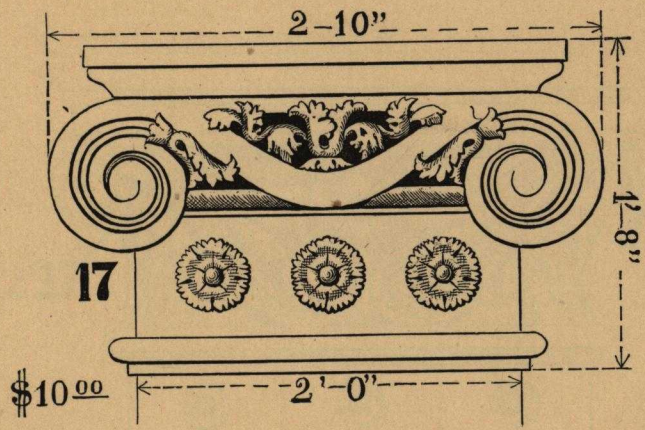
426

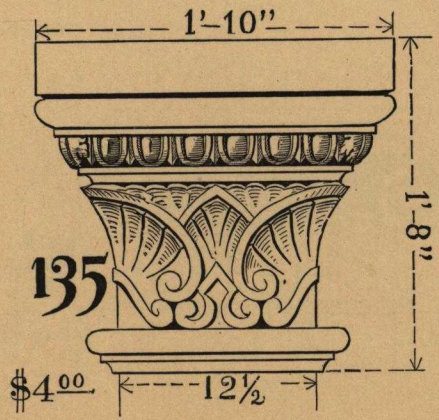
Terra Cotta Company.

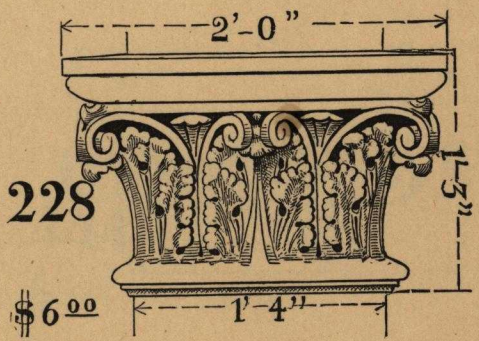

438
10½"
8"
$2.00
8"
440
9"
12"
$3.00
4½"
442
1'-11"
12"
$6.00
1'-4"
441
12"
12"
$4.00
5½"
437
1'-6"
1'-2"
$4.00
10"
443
2'-4"
1'-10"
$10.00
1'-8"

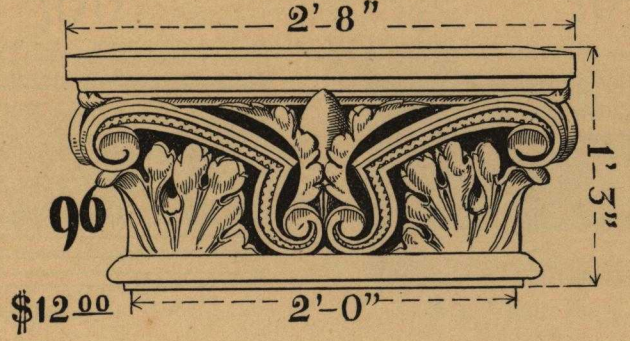

1'-5"
10"
20
$2.00
12½"

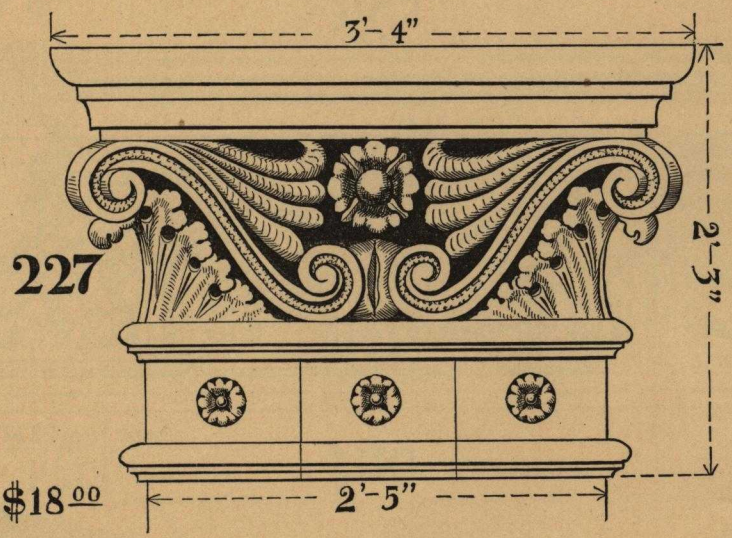

1'-3"
11"
439
$4.00
12½"

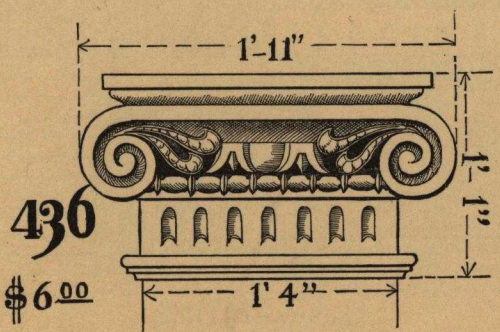

2-10"
1'-8"
17
$10.00
2'-0"

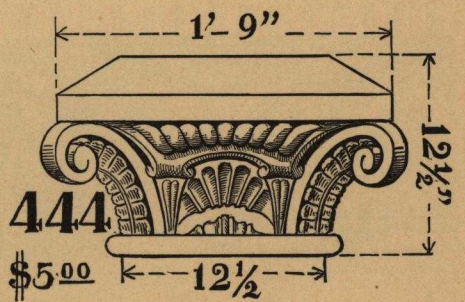

1'-10"
1'-8"
135
$4.00
12½

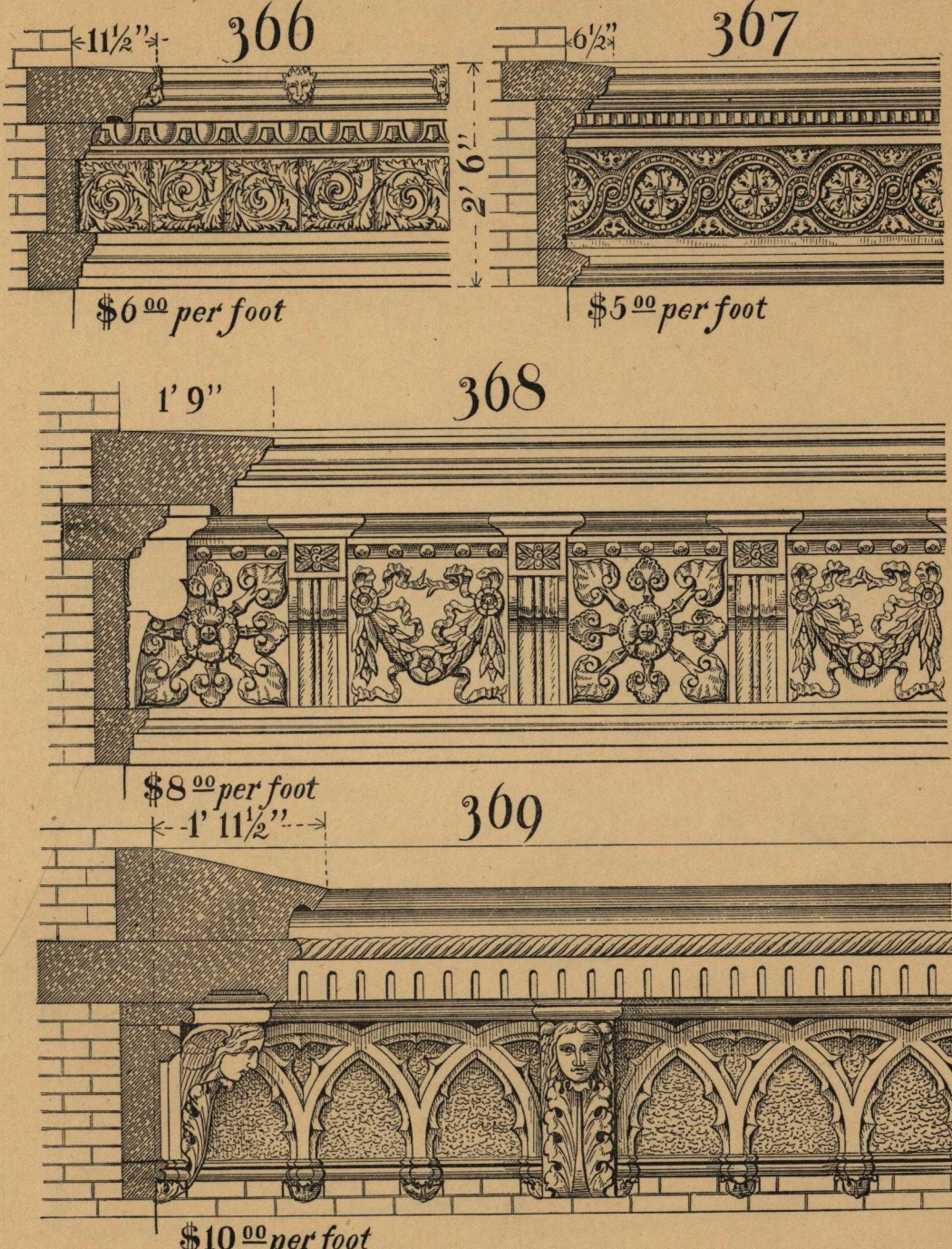

2'-0"
1'-3"
228
$6.00
1'-4"


2'-8"
1'-3"
96
$12.00
2'-0"


3'-4"
2'-3"
227
$18.00
2'-5"


1'-11"
1'-1"
436
$6.00
1' 4"


1'-9"
12½"
444
$5.00
12½

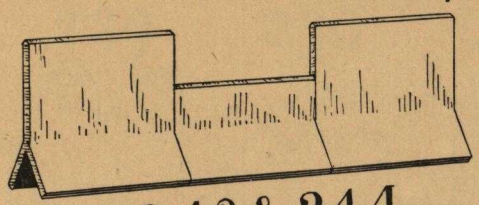


Special prices for quantities exceeding 20 feet.

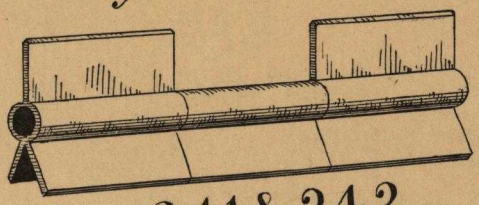
½ Inch Scale

Terra Cotta Company.

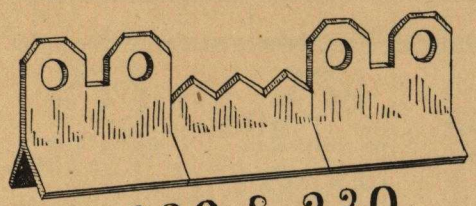
Prices are per lineal foot.



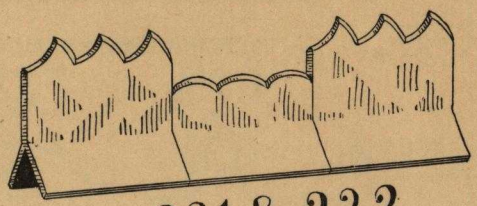
50¢ 243 & 244



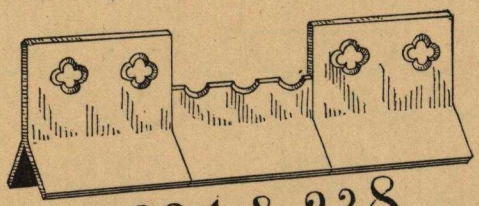
60¢ 241 & 242



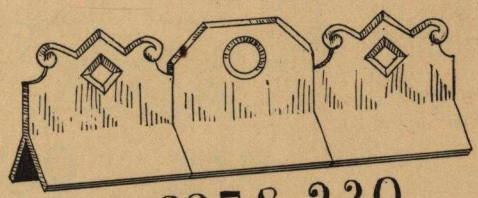
55¢ 229 & 230



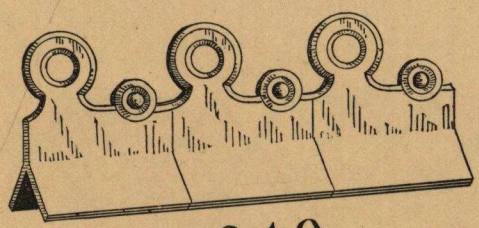
55¢ 231 & 232



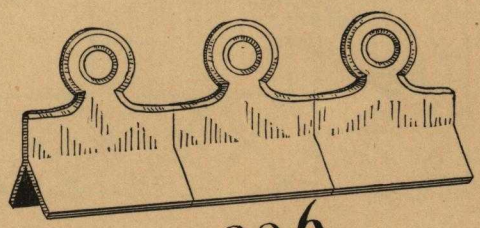
55¢ 234 & 238



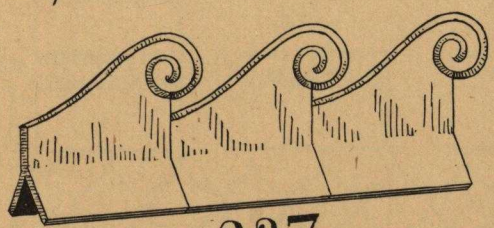
60¢ 235 & 239



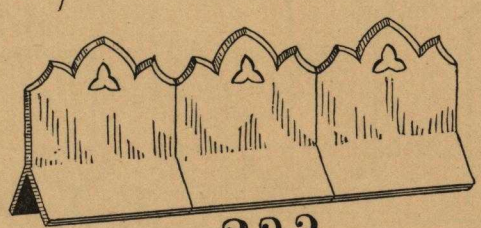
65¢ 240



65¢ 236

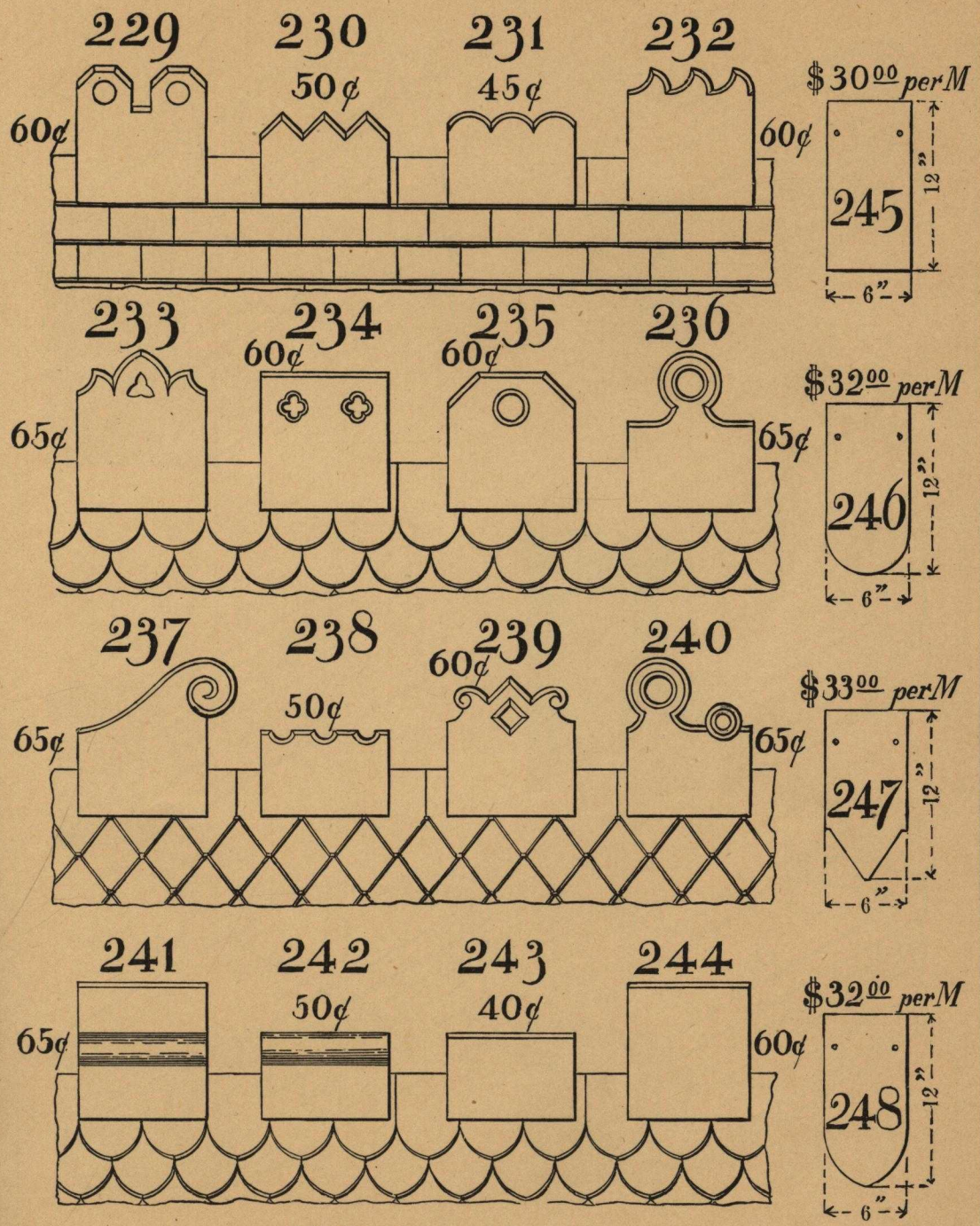


65¢ 237



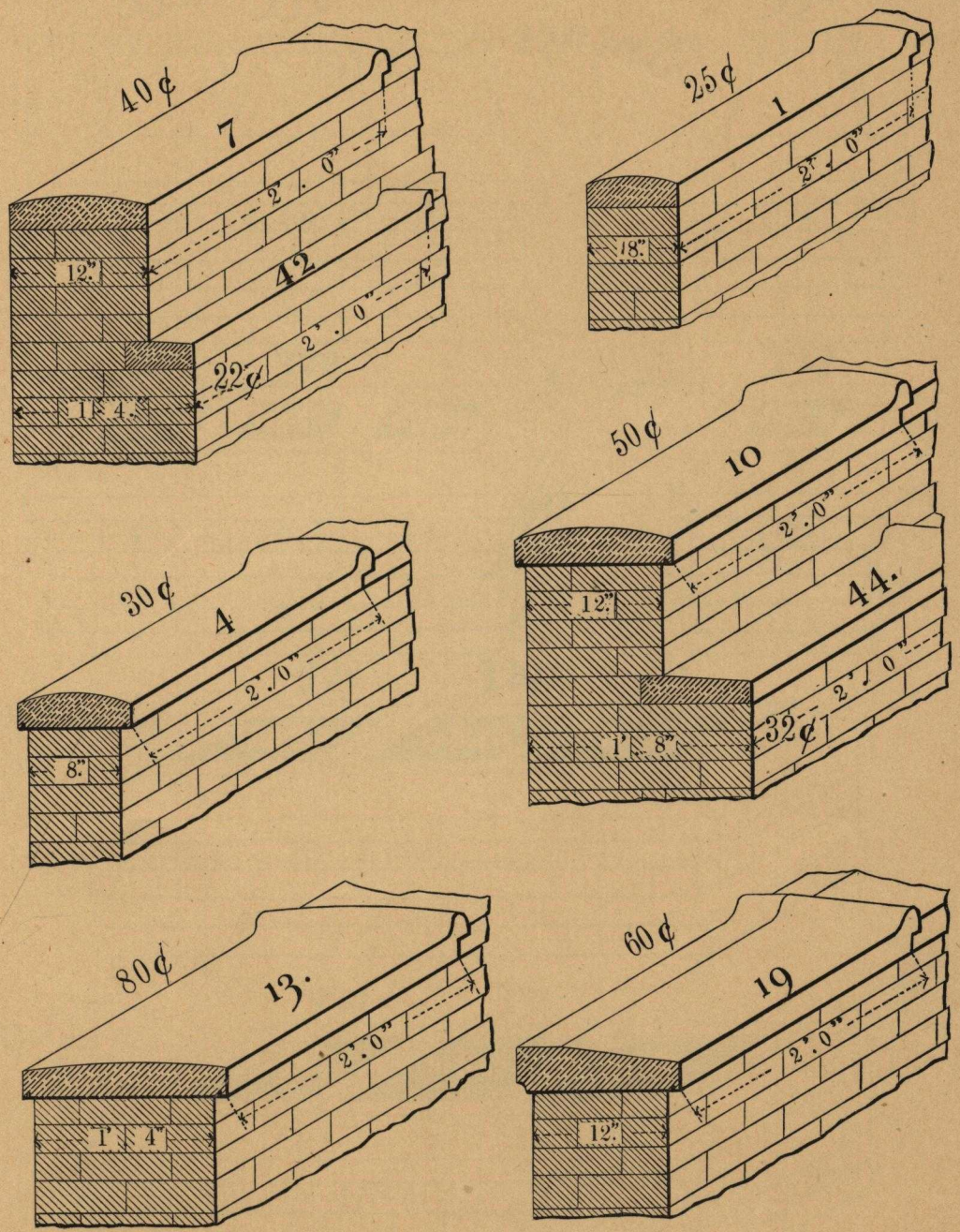
65¢ 233

All Crestings 12" Long.



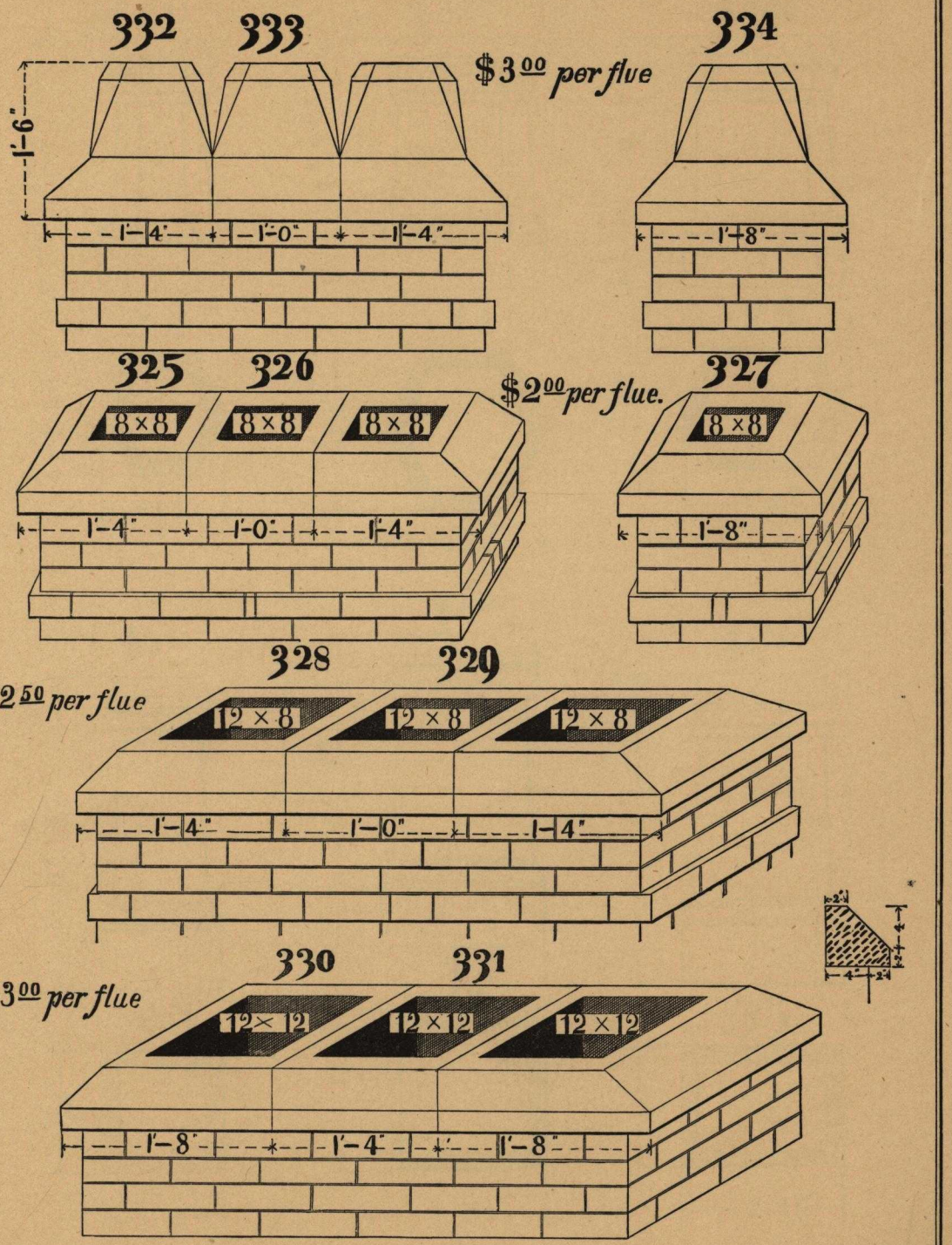
All Crestings 12" Long.

Terra Cotta Company.

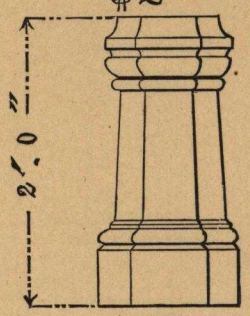


Prices are per Lineal Foot.

Terra Cotta Company.


332
333
$3.00 per flue
334
1'-6"
1'-4"
1'-0"
1'-4"
1'-8"
325
326
$2.00 per flue.
327
8 x 8
8 x 8
8 x 8
8 x 8
1'-4"
1'-0"
1'-4"
1'-8"
328
329
$2.50 per flue
12 x 8
12 x 8
12 x 8
1'-4"
1'-0"
1'-4"
330
331
$3.00 per flue
12 x 12
12 x 12
12 x 12
1'-8"
1'-4"
1'-8"

$2.25



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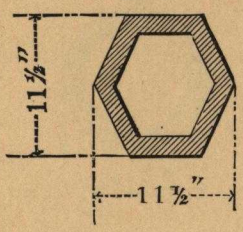
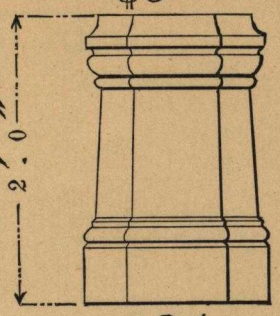


$3.75



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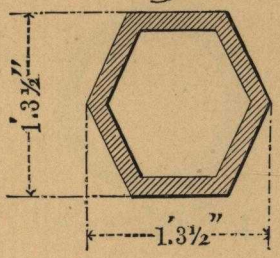

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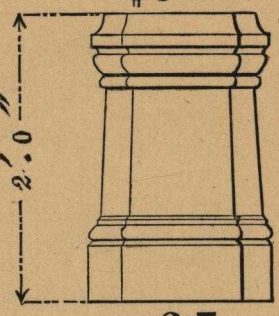

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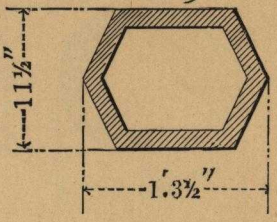
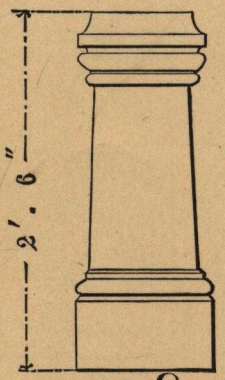


$3.00



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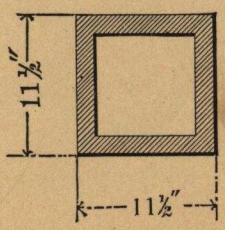
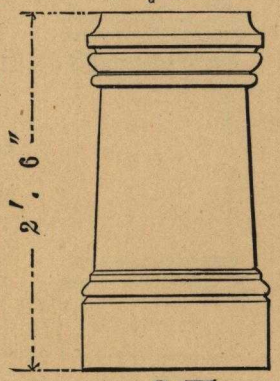
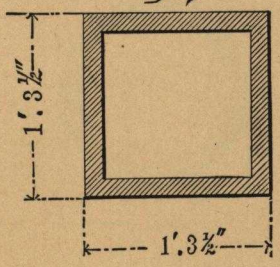


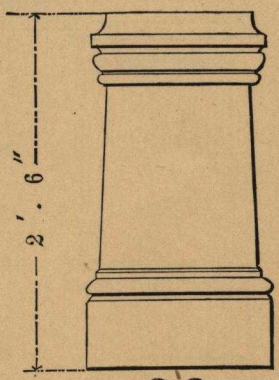
$4.50



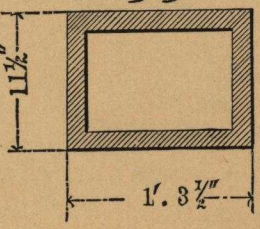
37



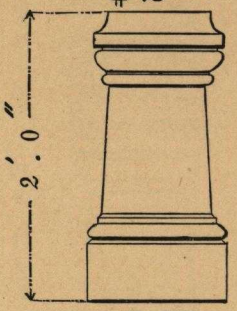
$4.00



33



$2.00



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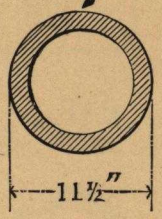
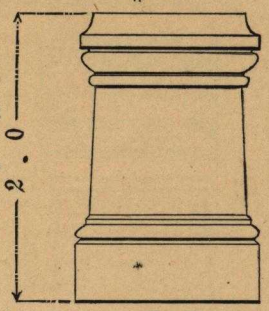


$3.00



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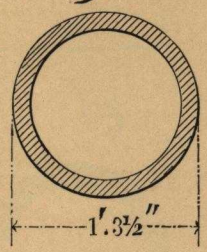

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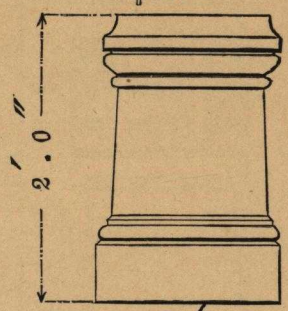

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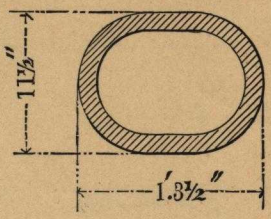

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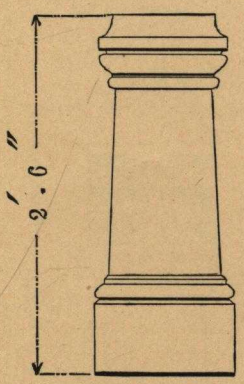

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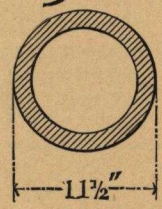

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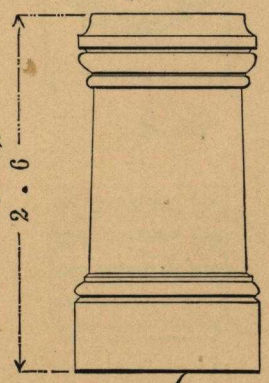

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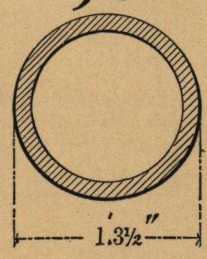

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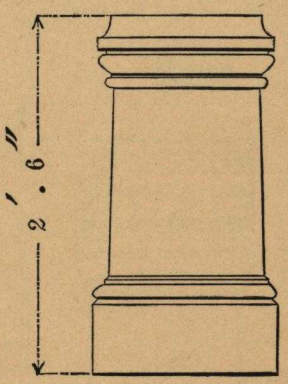

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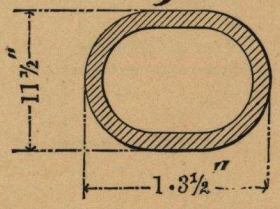

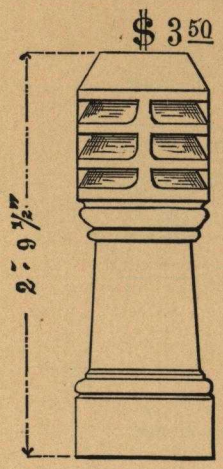

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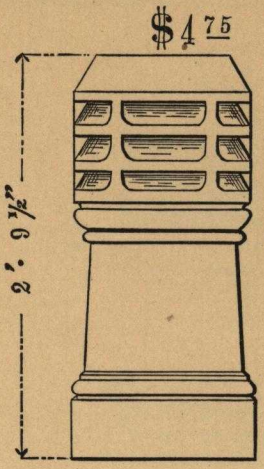

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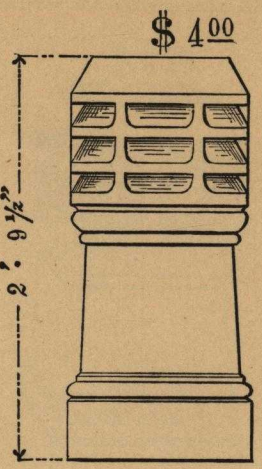

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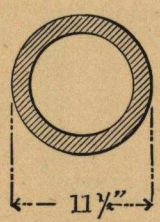

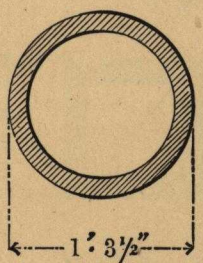

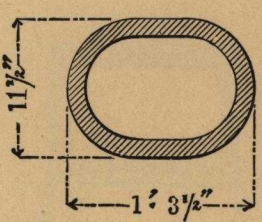

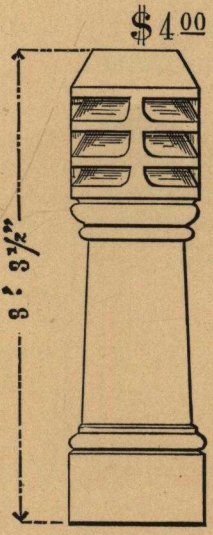

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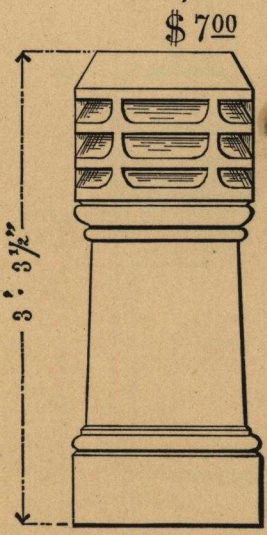

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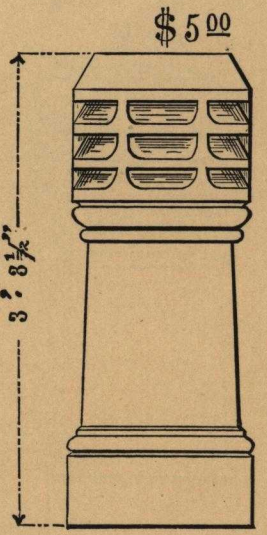
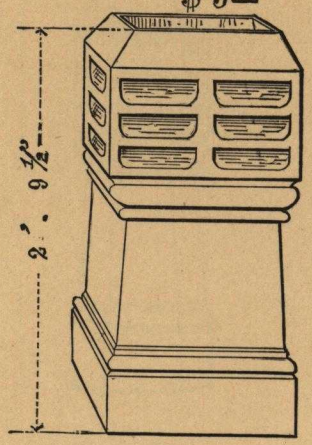


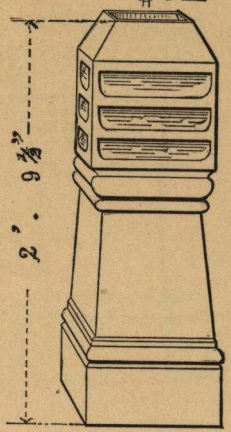
67

$5.25



68

$3.75



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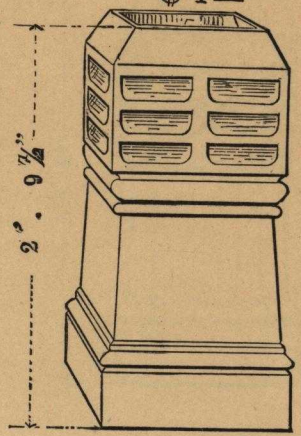
$4.75



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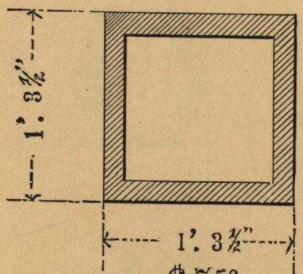
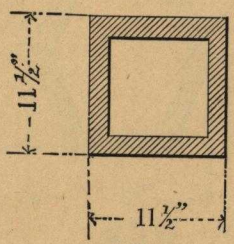
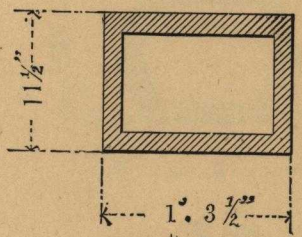
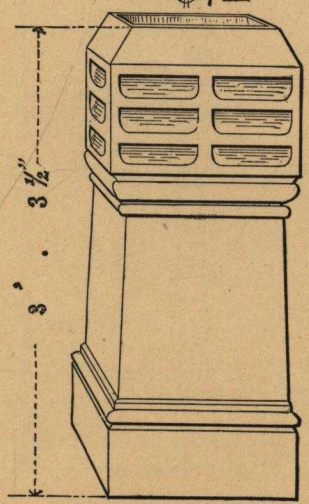






$7.50



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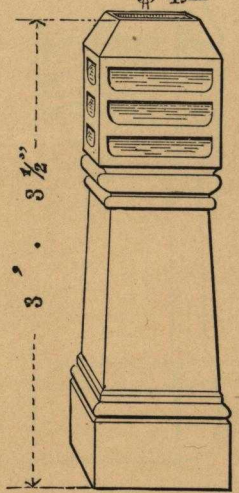

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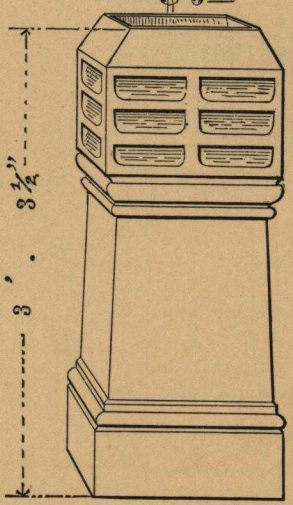
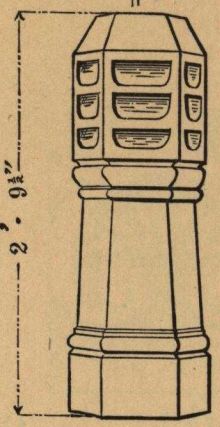
$5.50



73

$2.25



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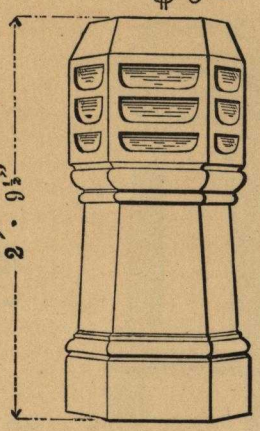
$3.75



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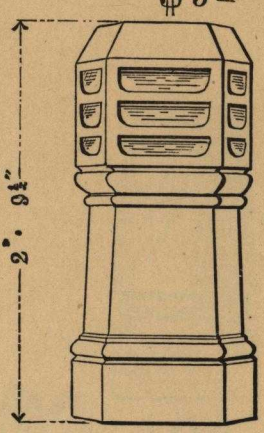
$3.25



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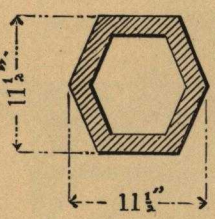

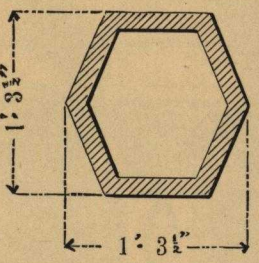

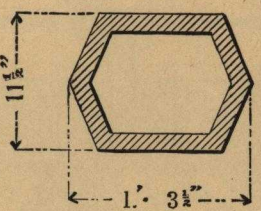

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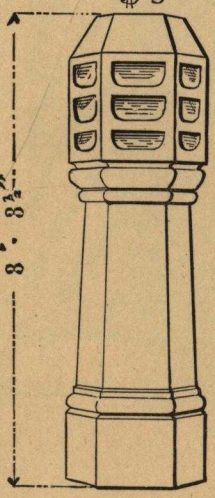
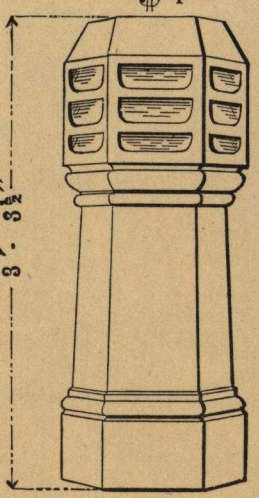


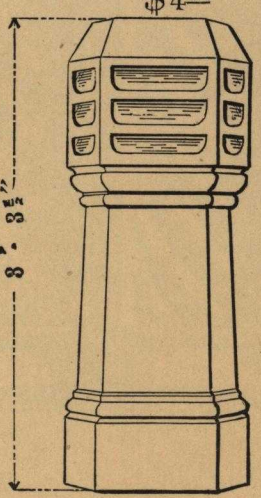
77

$4.50



78

$4.00



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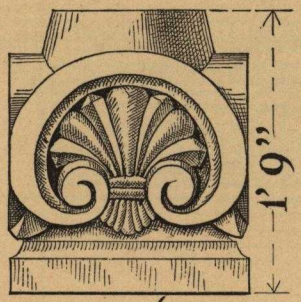
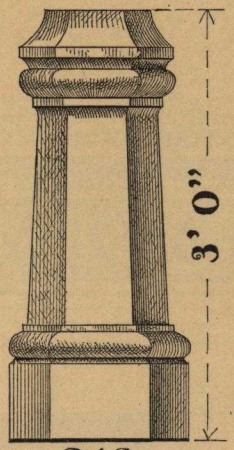
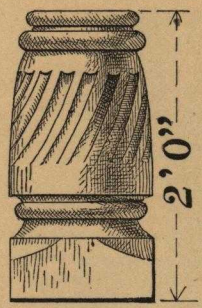


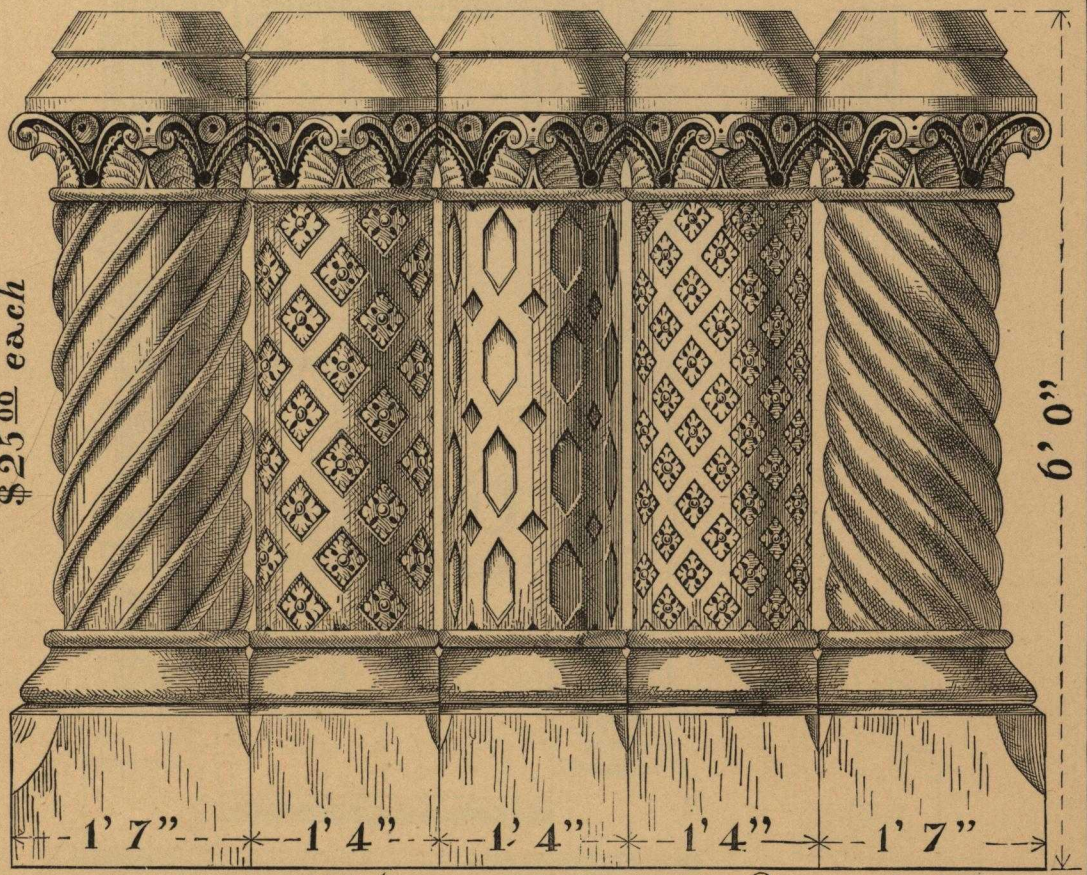
Base 146 $4.00
1'4"×1'8"



Base 1'3" 213 $4.00



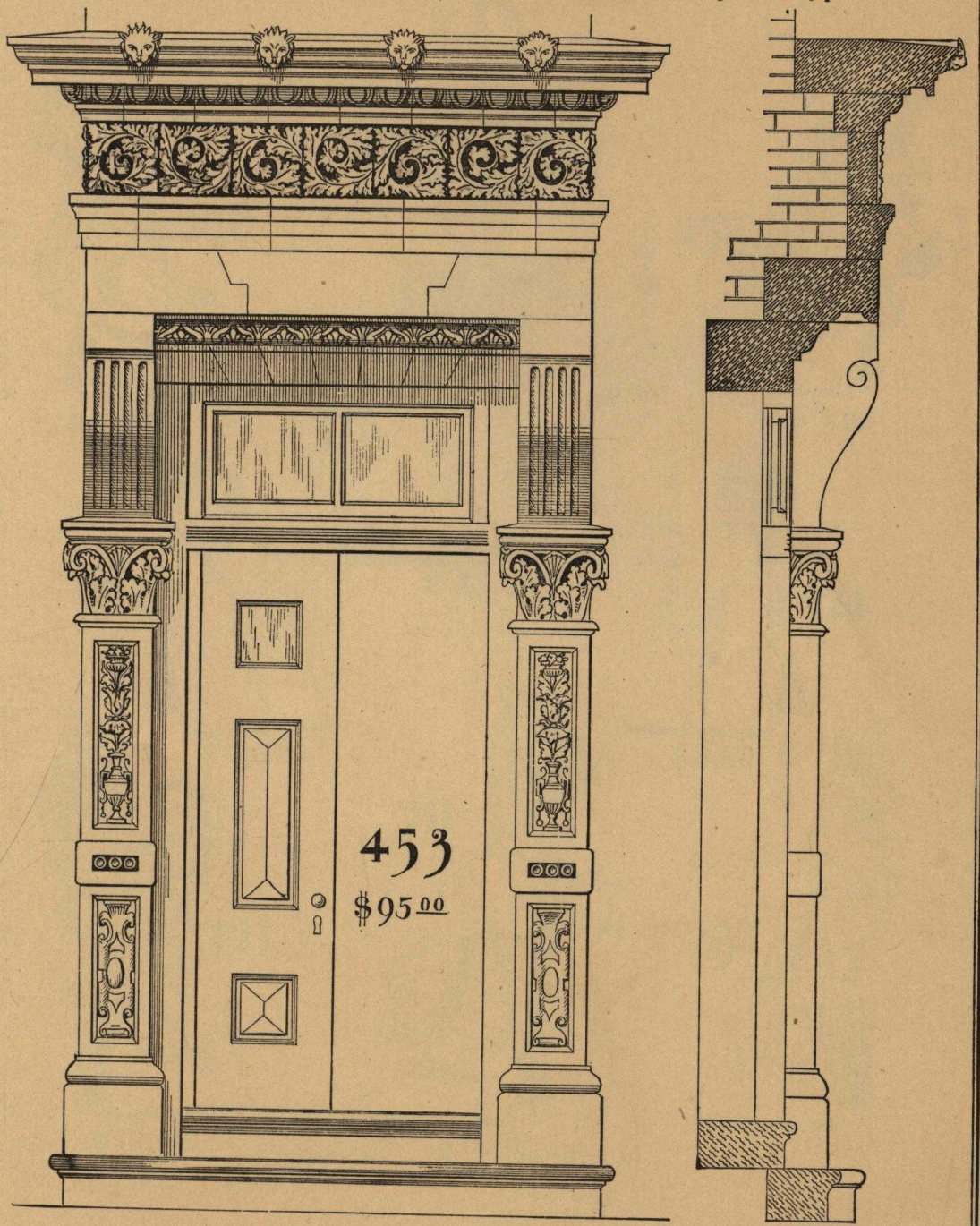
Base
12"×12" 494 $3.00



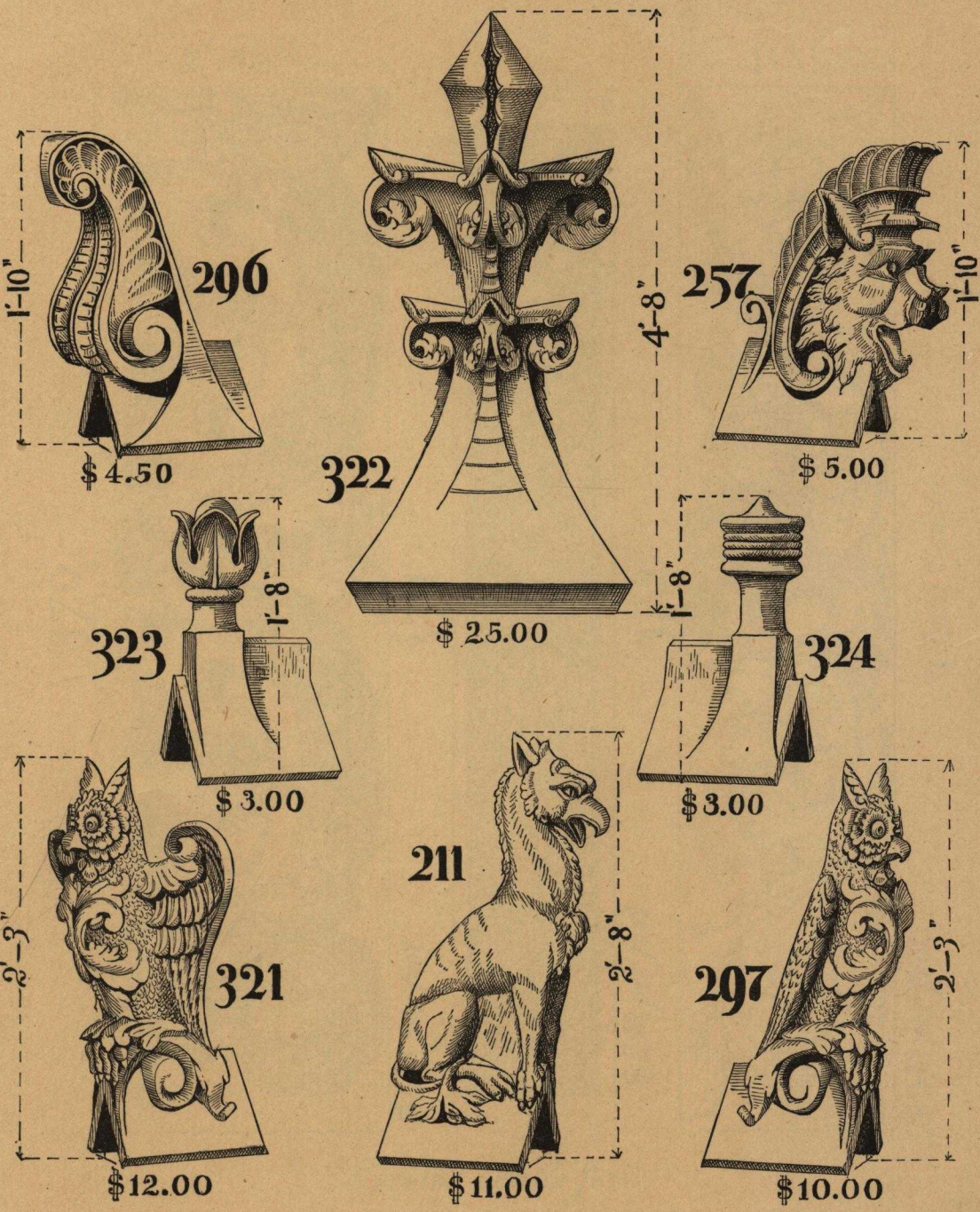
495 496 497 498 499

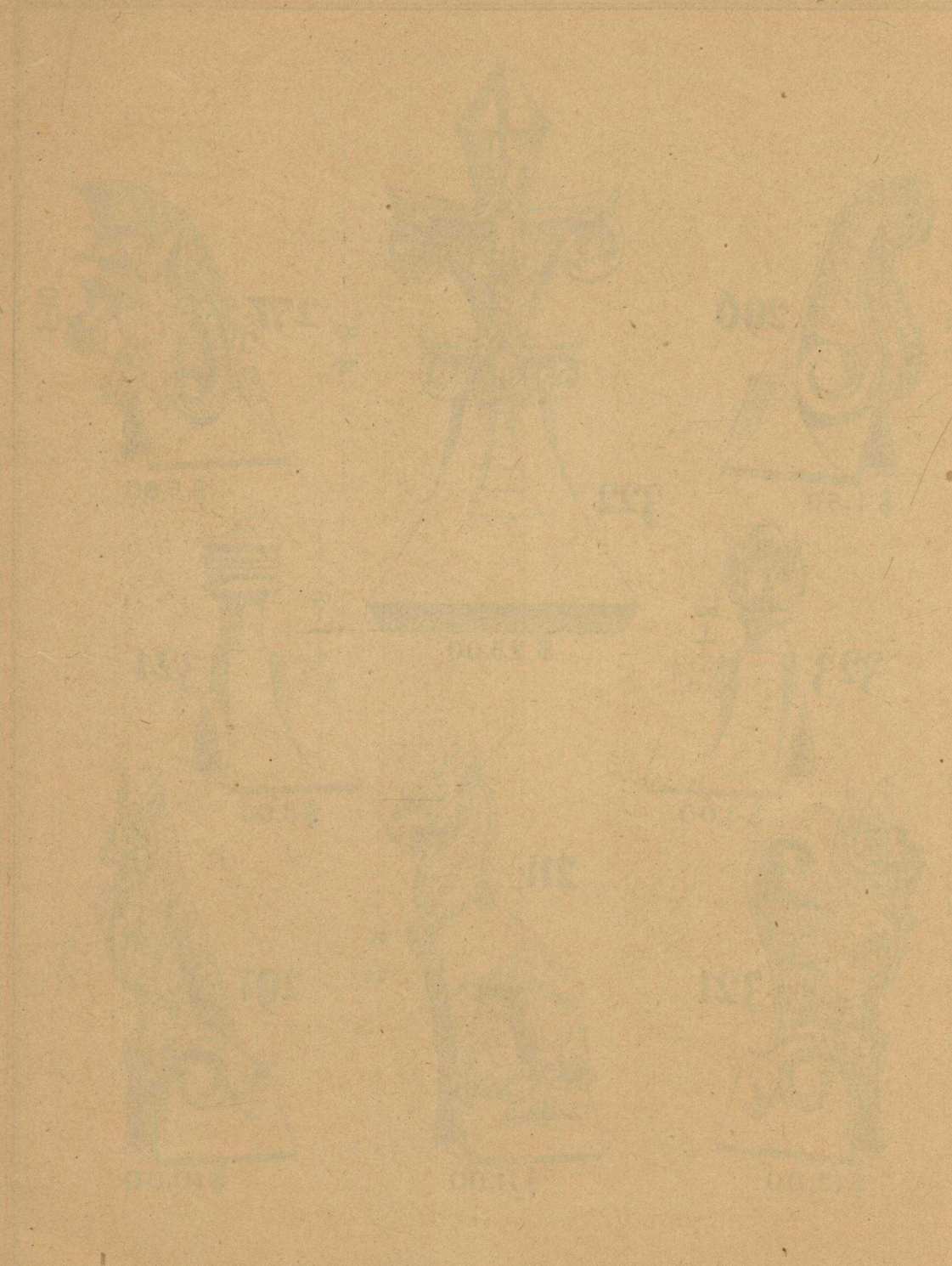
Terra Cotta Company.

Special price according to quantity, given upon application.



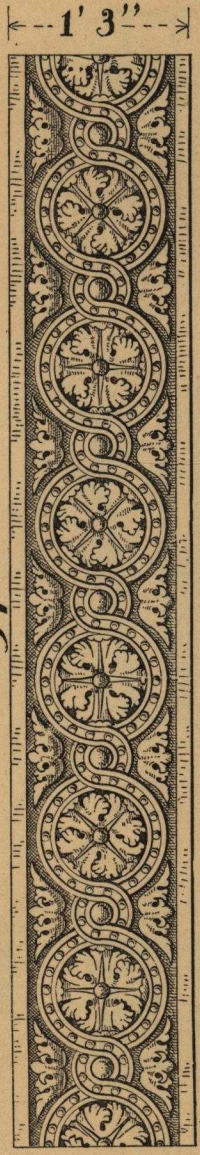
Terra Cotta Company.


296
1'-10"
$ 4.50
322
4'-8"
$ 25.00
257
1'-10"
$ 5.00
323
1'-8"
$ 3.00
324
1'-8"
$ 3.00
321
2'-3"
$12.00
211
2'-8"
$11.00
297
2'-3"
$10.00



370

$5.00 per foot



371

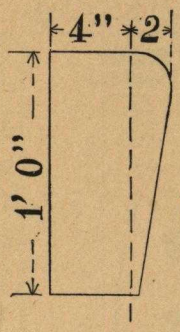
$2.50 per foot

372

$3.50 per foot

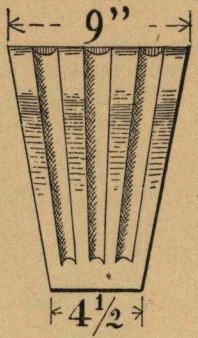
¾ Inch Scale

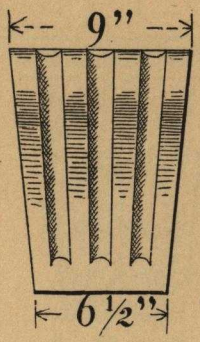
Special prices for quantities exceeding 20 feet.



$1.00

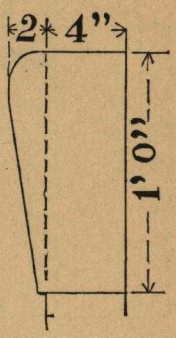
381

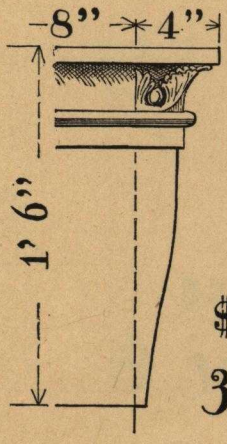




$1.10

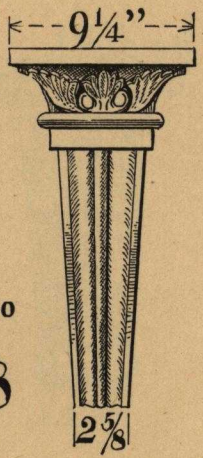
390

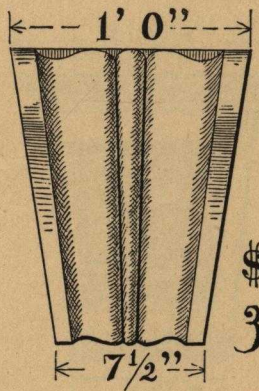




$3.00

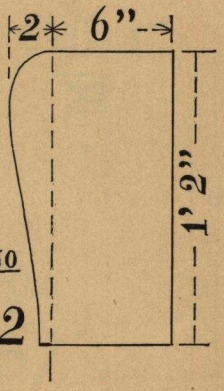
388

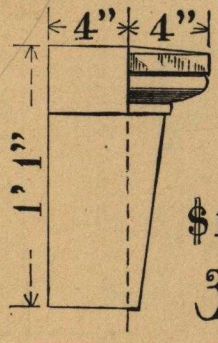




$1.50

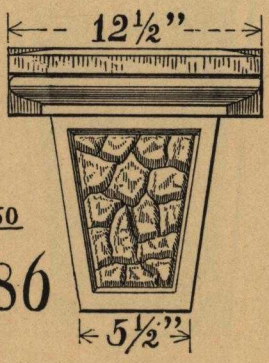
392

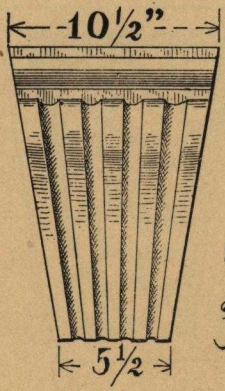




$1.50

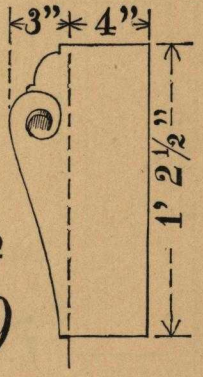
386

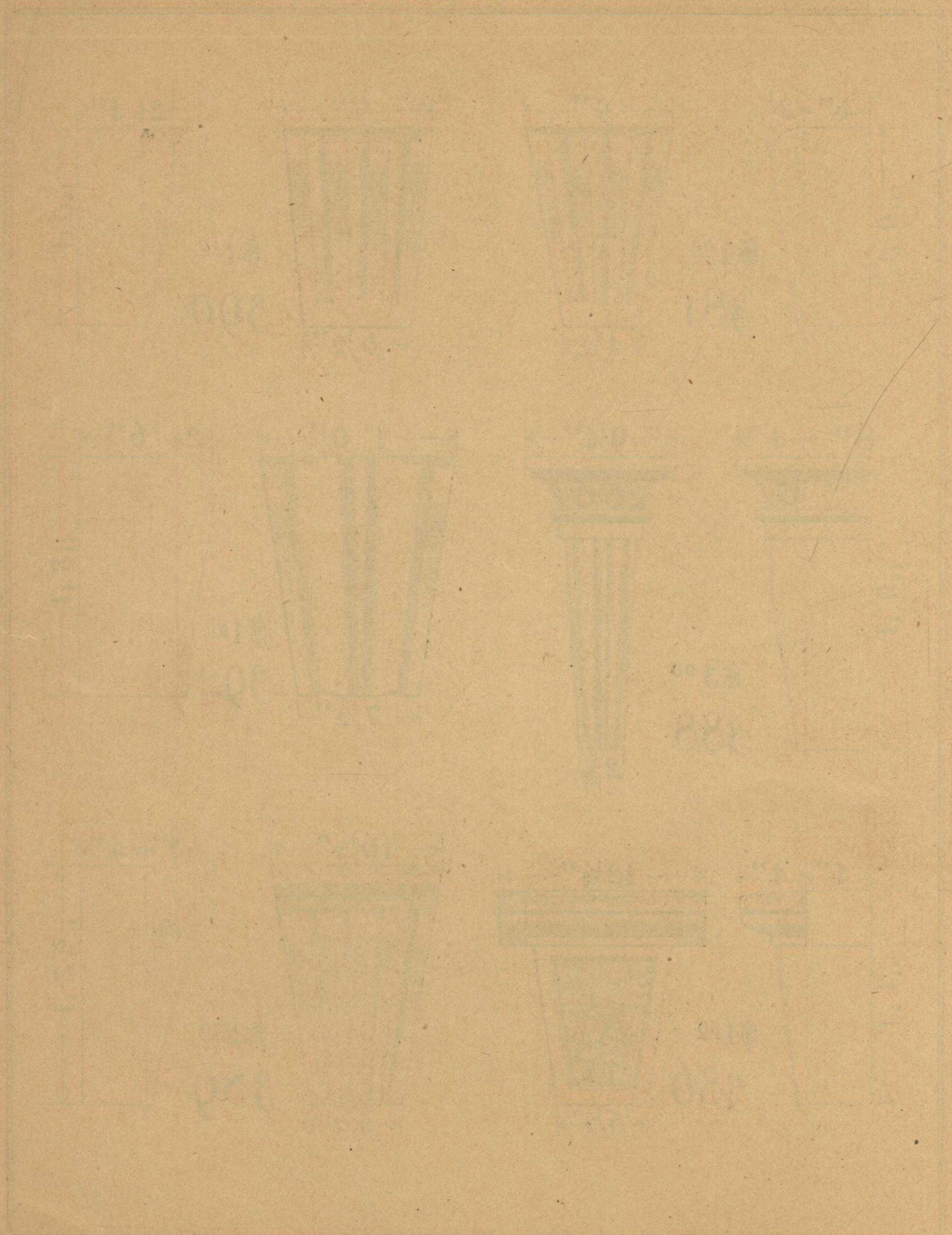


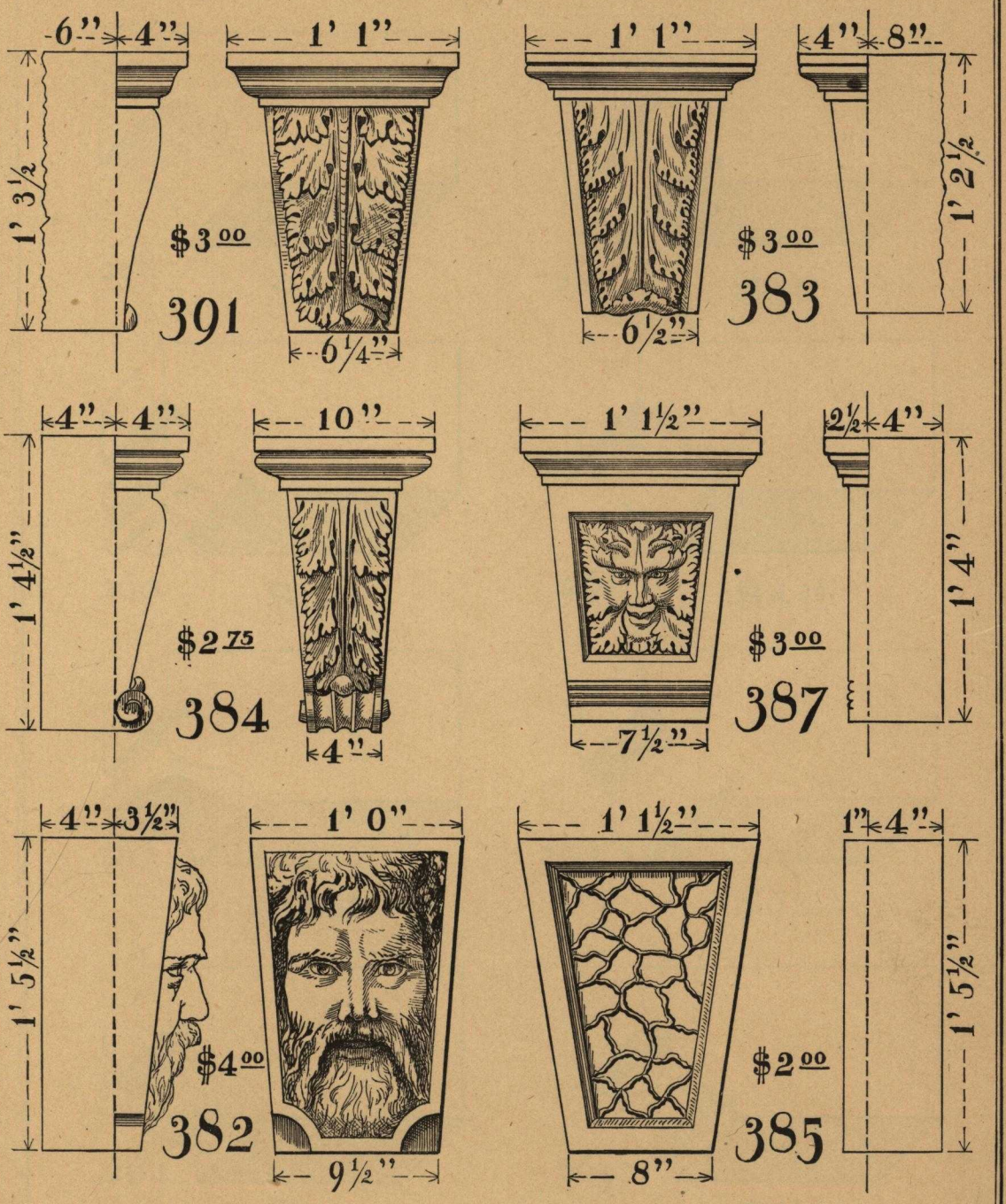


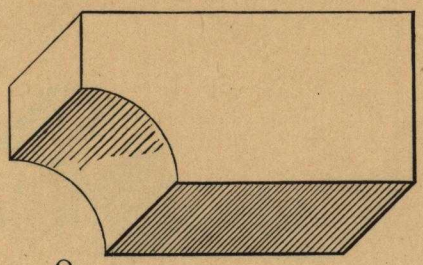
$2.00

389

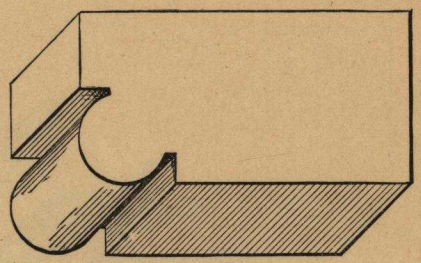




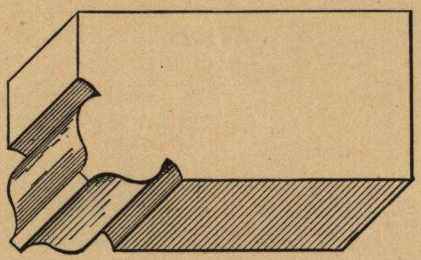

6"
4"
1' 3½"
1' 1"
6¼"
$3.00
391
1' 1"
6½"
$3.00
383
4"
8"
1' 2½"
4"
4"
1' 4½"
10"
4"
$2.75
384
1' 1½"
7½"
$3.00
387
2½
4"
1' 4"
4"
3½"
1' 5½"
1' 0"
9½"
$4.00
382
1' 1½"
8"
$2.00
385
1"
4"
1' 5½"



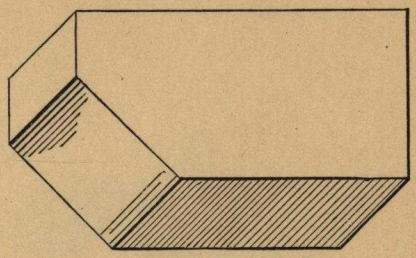
258 $4.50



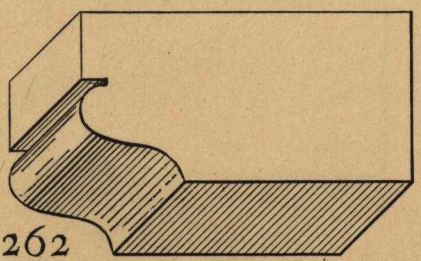
259 $5.50



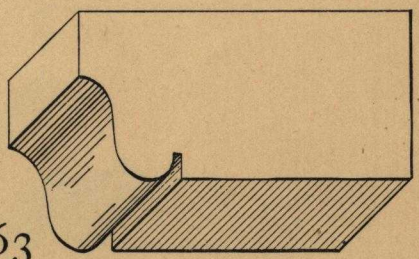
260 $6.50



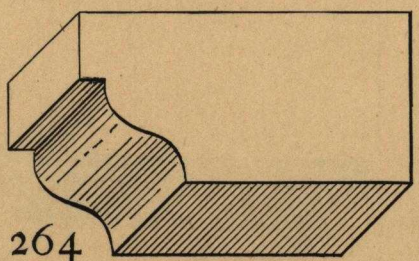
261 $4.00



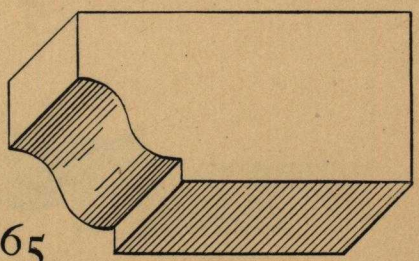
262 $6.00



263 $6.00



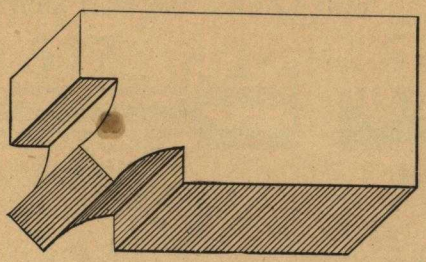
264 $5.00



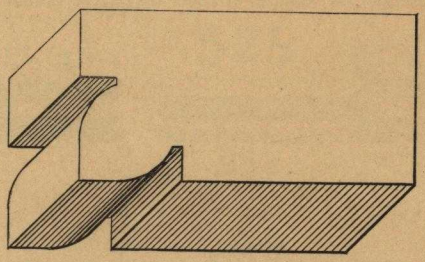
265 $5.00

Prices quoted, per hundred:

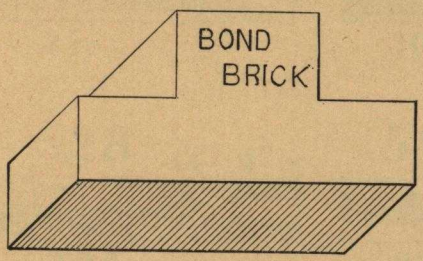
Terra Cotta Company.



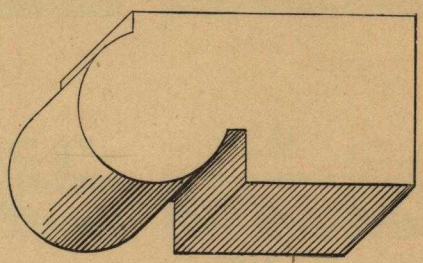
266 $6.50



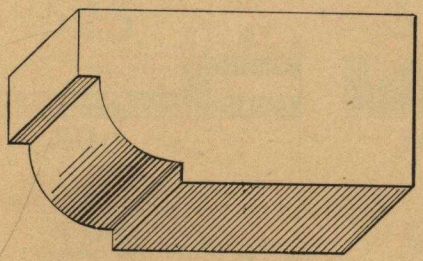
267 $6.50



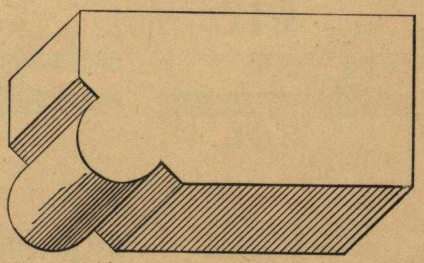
269 $4.00



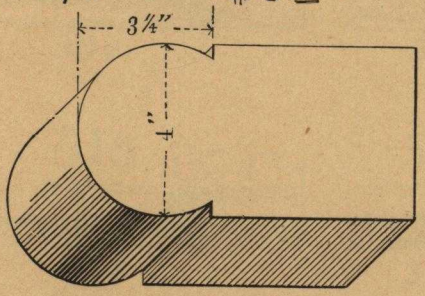
270 $6.00



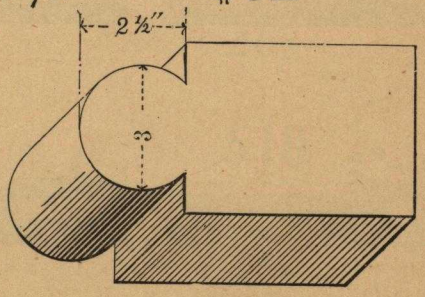
271 $5.00



272 $5.00



273 $6.00

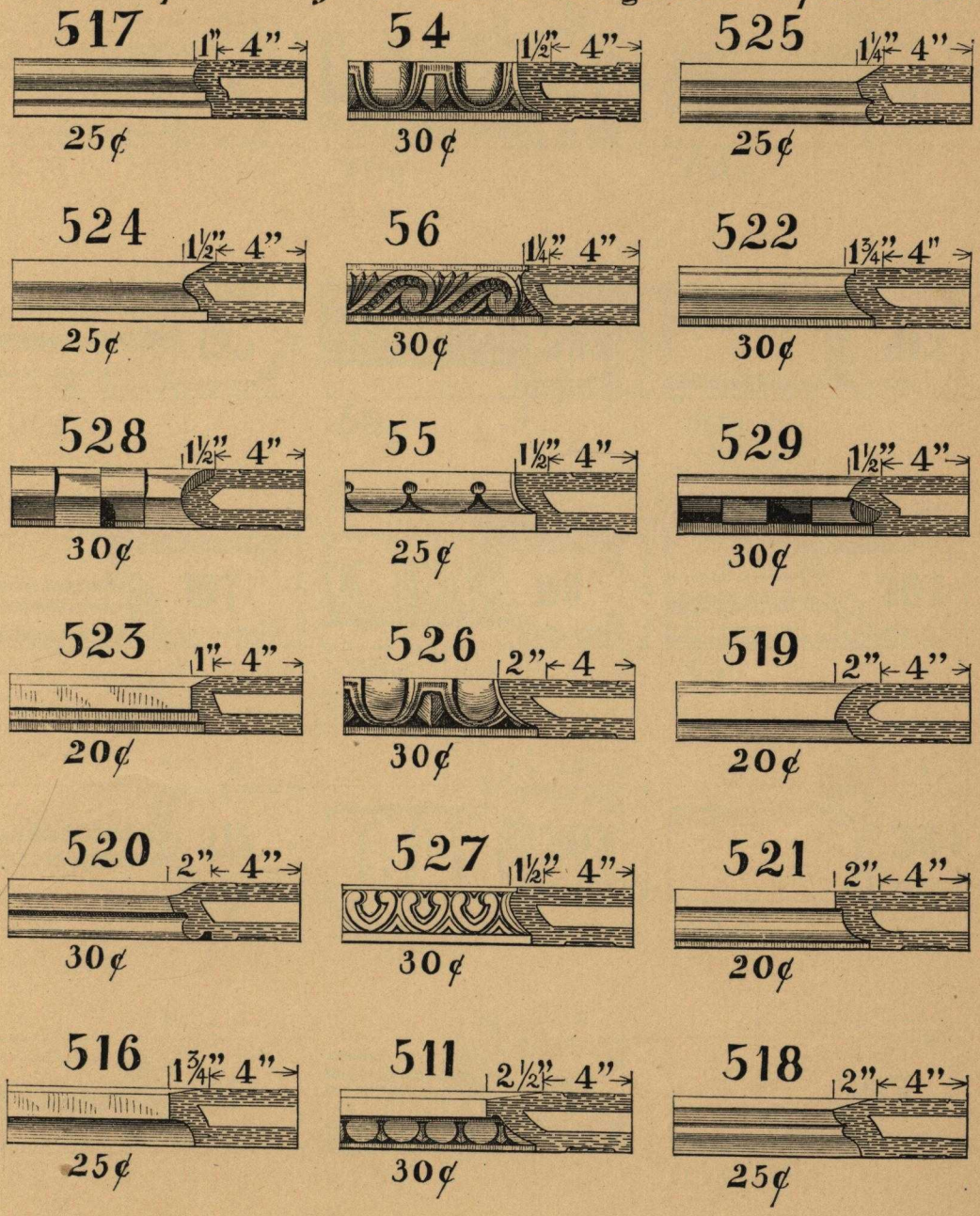


274 $6.00

Prices quoted, per hundred.

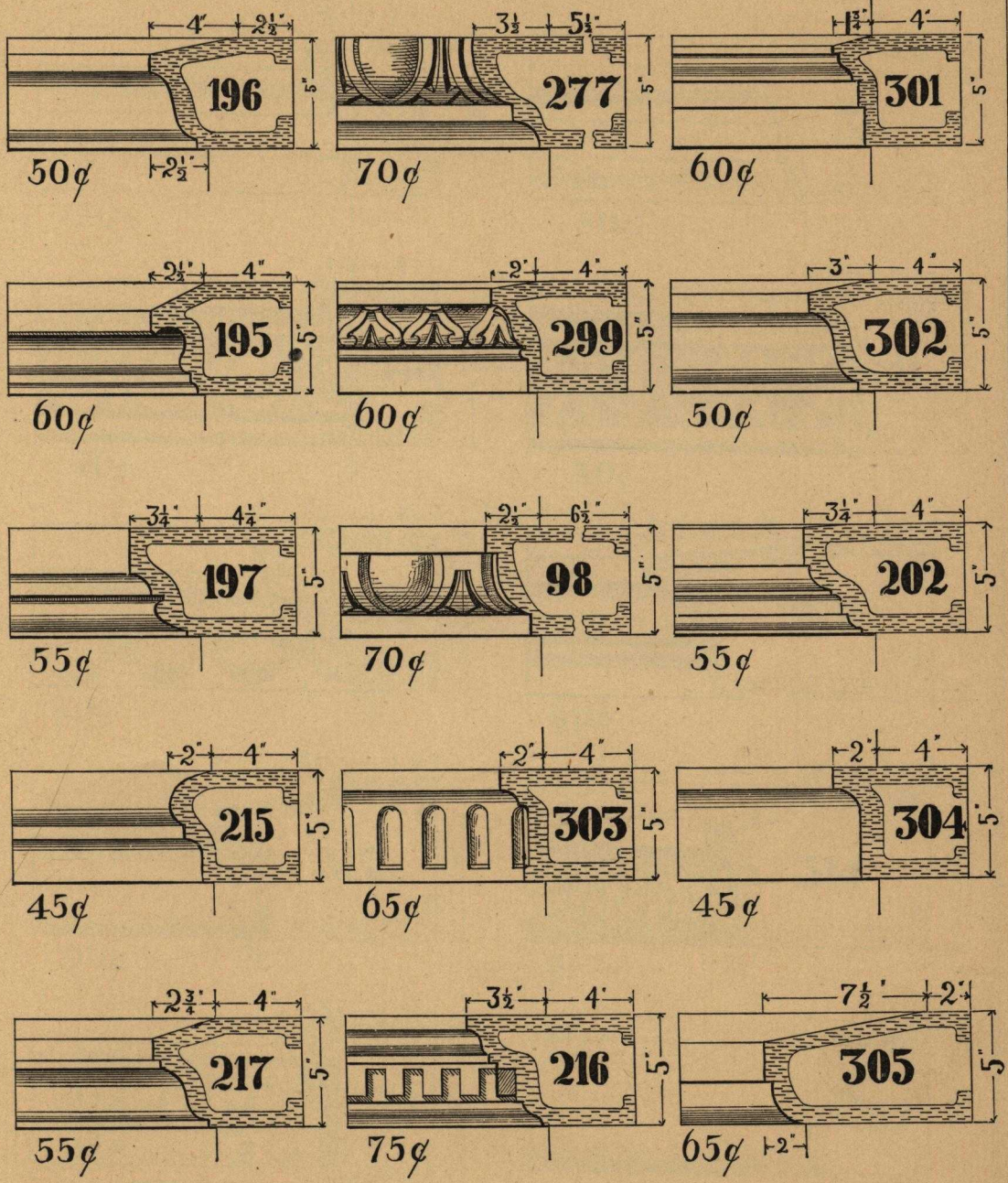
Terra Cotta Company.

Prices are per lineal foot *External Angles also kept in stock.*



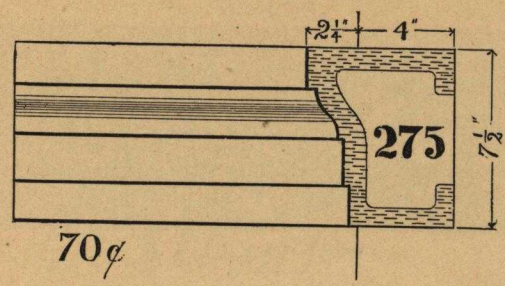
Terra Cotta Company.

Prices are per lineal foot. External Angles also kept in stock.

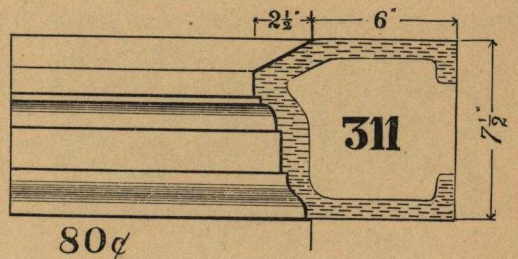


Terra Cotta Company.

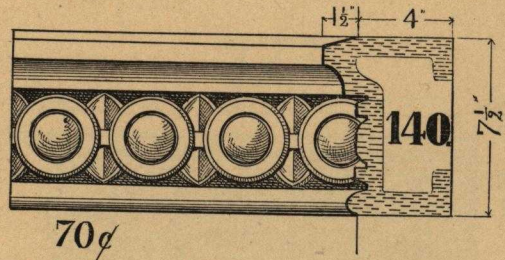
Prices are per lineal foot. *External Angles also kept in stock.*



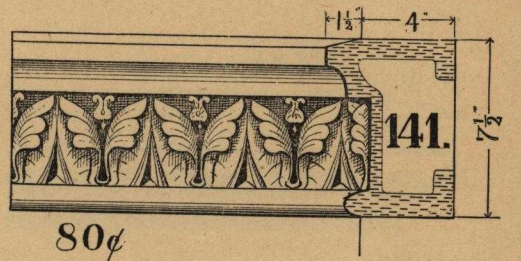
70¢



80¢



70¢



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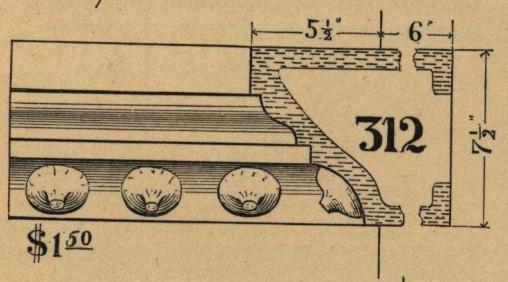
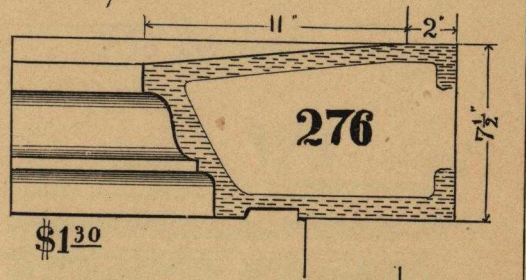
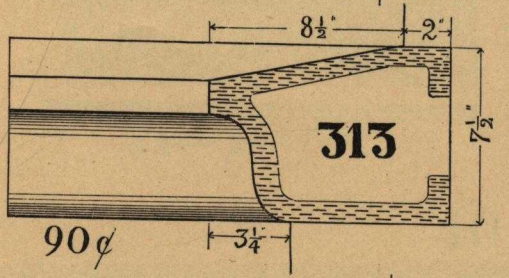


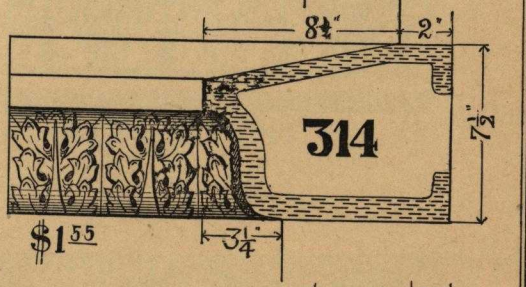
$1.50



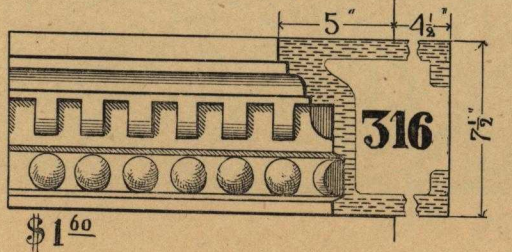
$1.30



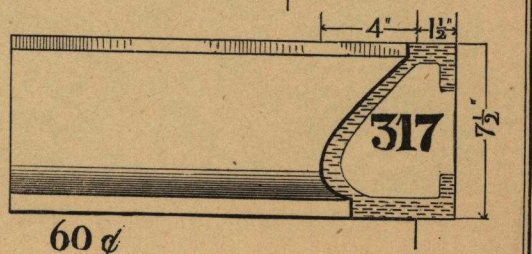
90¢



$1.55

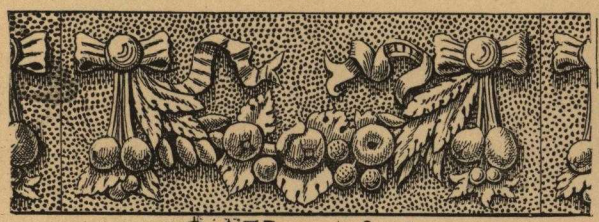


$1.60



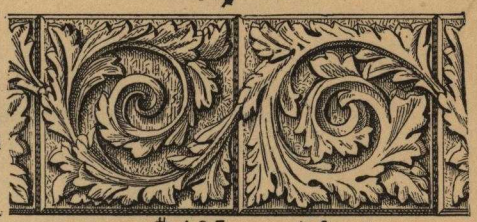
60¢

486



$1.75 per foot

474

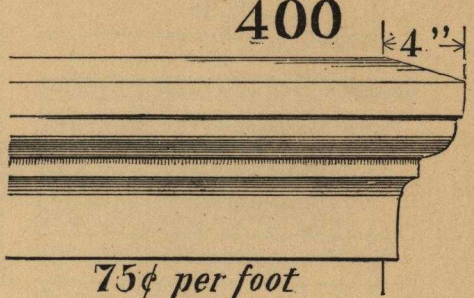


$1.25 per foot

375

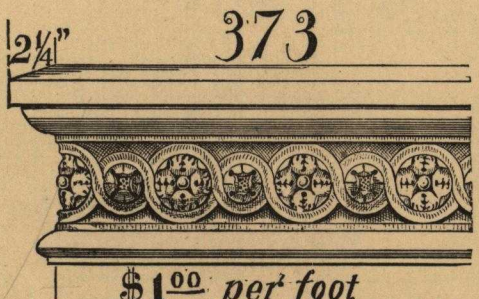
$1.75 per foot

400



75¢ per foot

373



$1.00 per foot

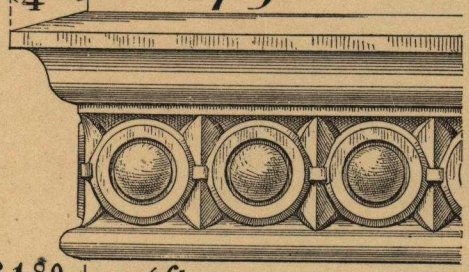
374

$1.50 per foot

401

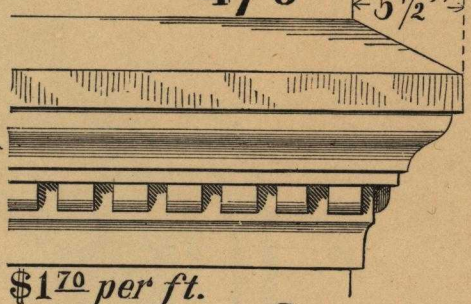
$1.50 per foot

475



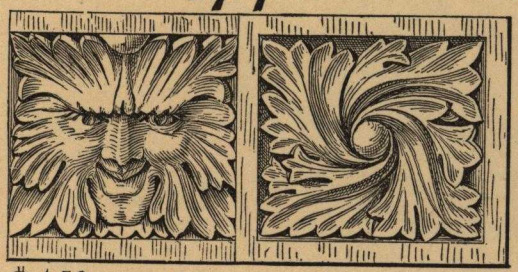
$1.80 per ft.

476



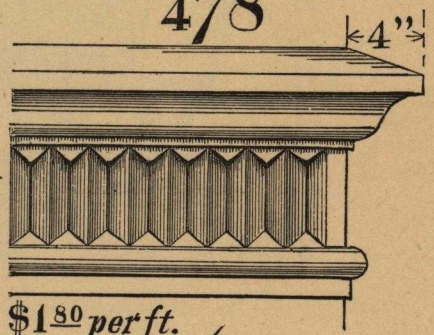
$1.70 per ft.

477



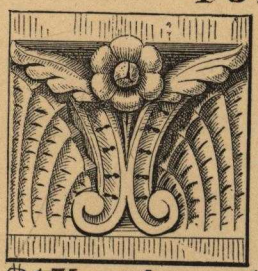
$1.50 per ft. *No projection.*

478



$1.80 per ft.

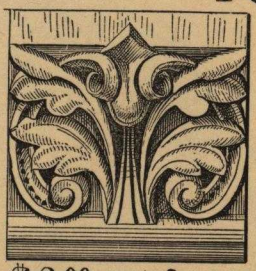
462



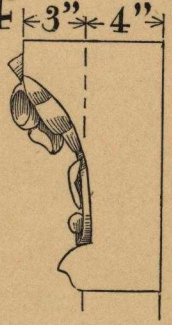
$1.75 per ft.

No projection.

464



$2.00 per ft



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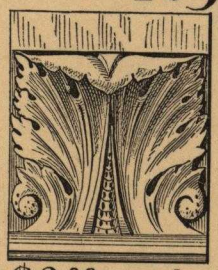
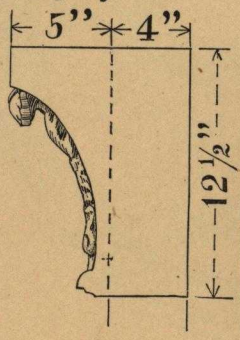
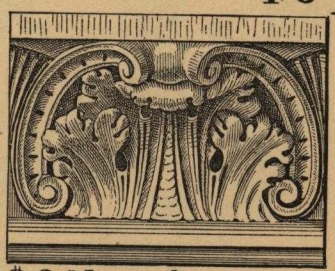


$2.00 each



463



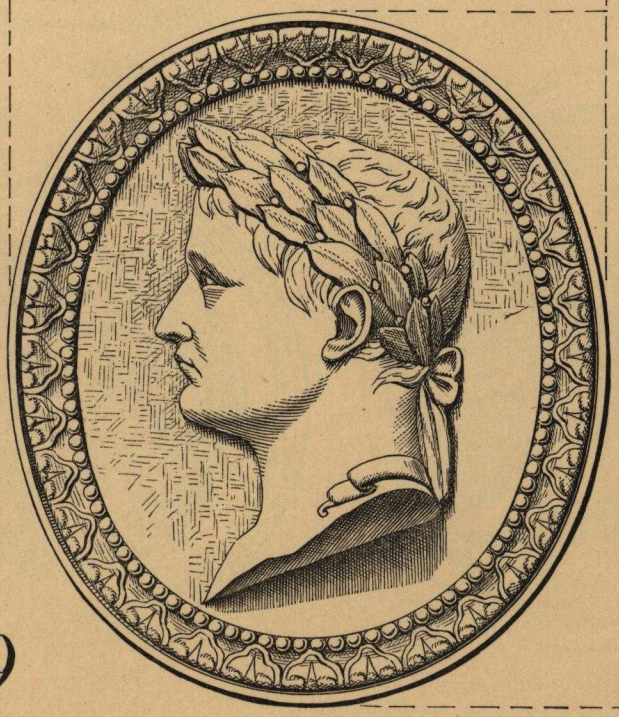
$2.25 per ft.

$25.00

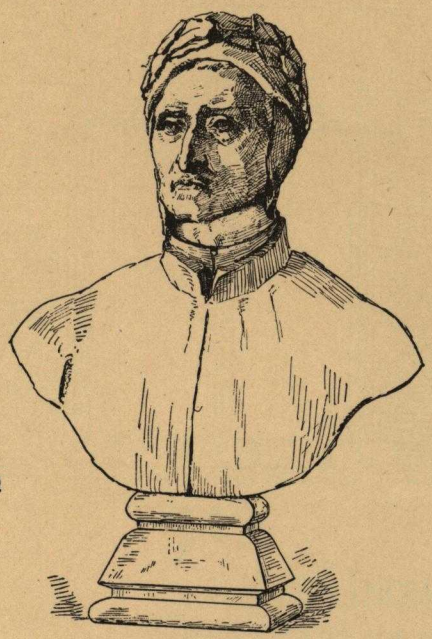
451

2'-0"

$20.00



419



$25.00

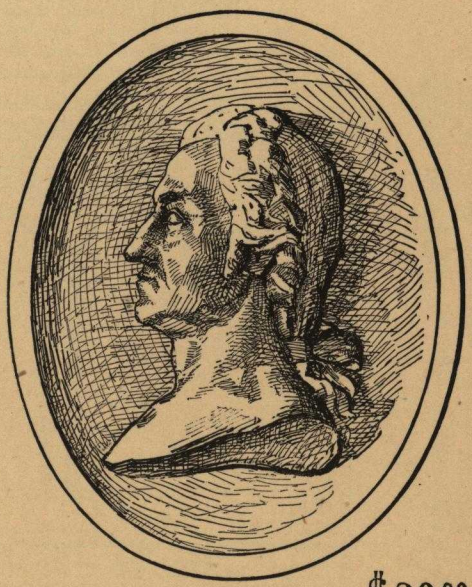
131

$10.00

132

$25.00

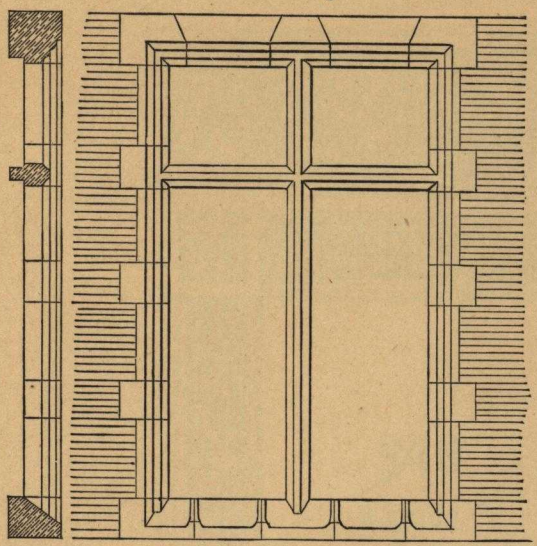
133



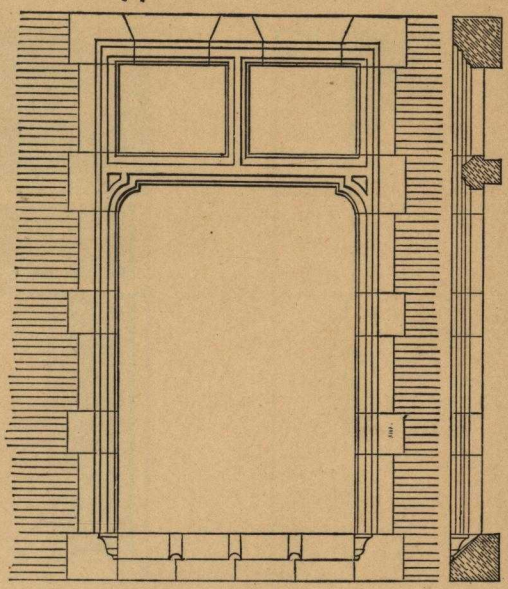
$20.00

134

Prices furnished upon application.

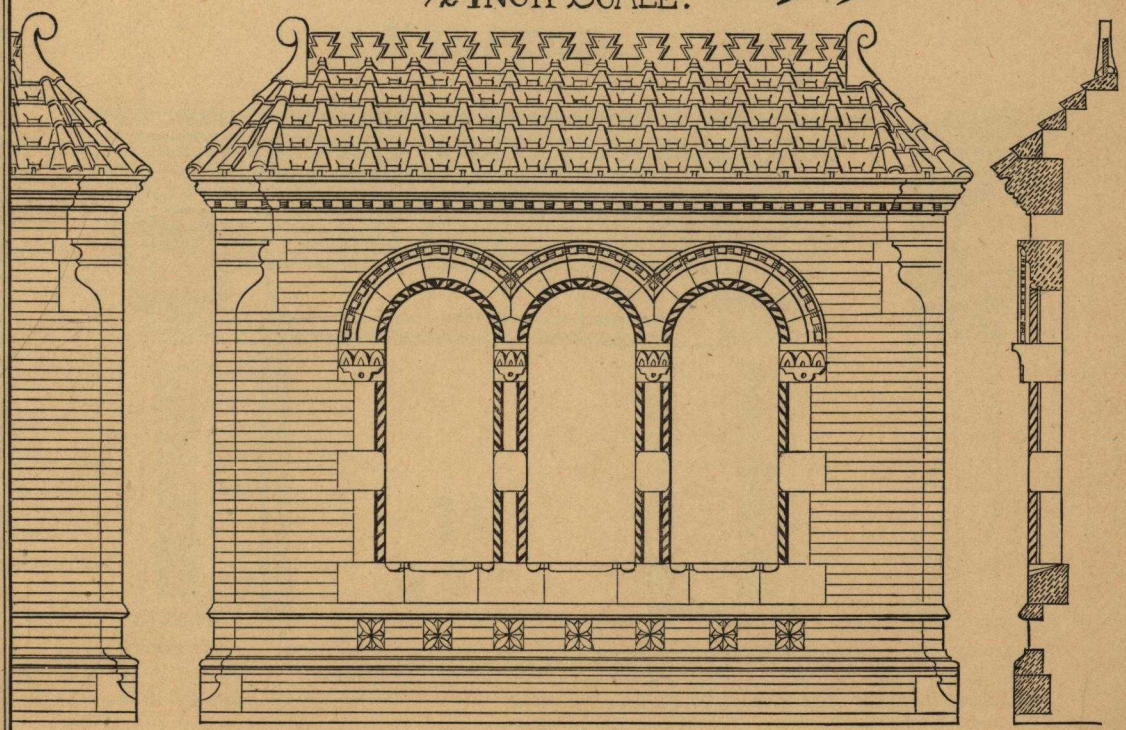


342

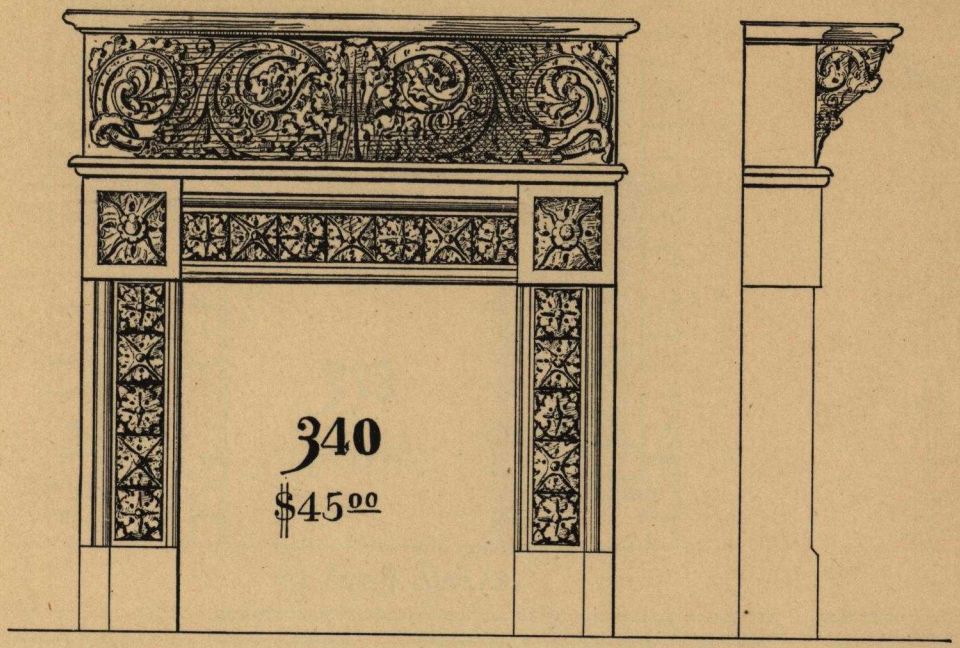


343

½ Inch Scale.

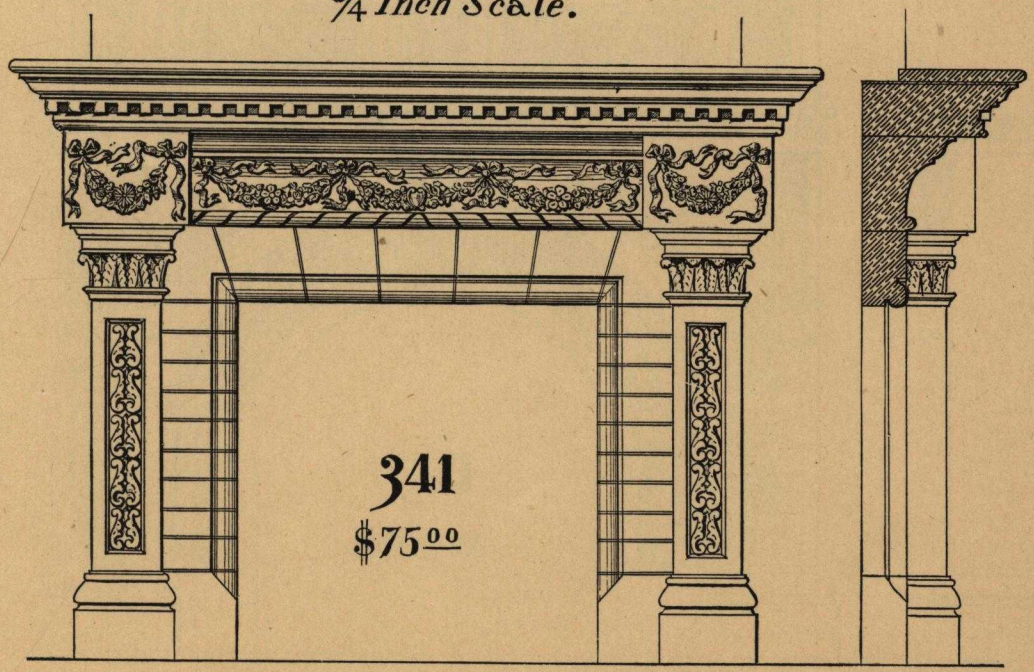


344

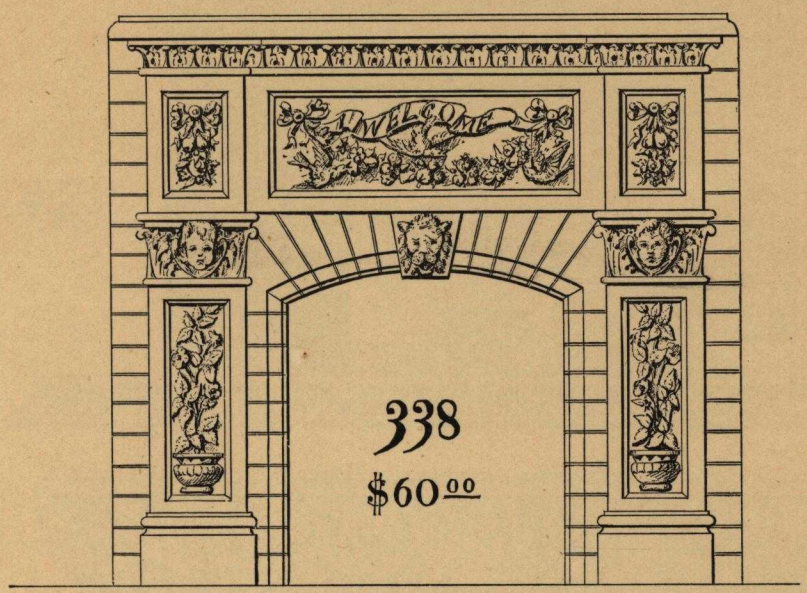


340
$45.00

¾ Inch Scale.



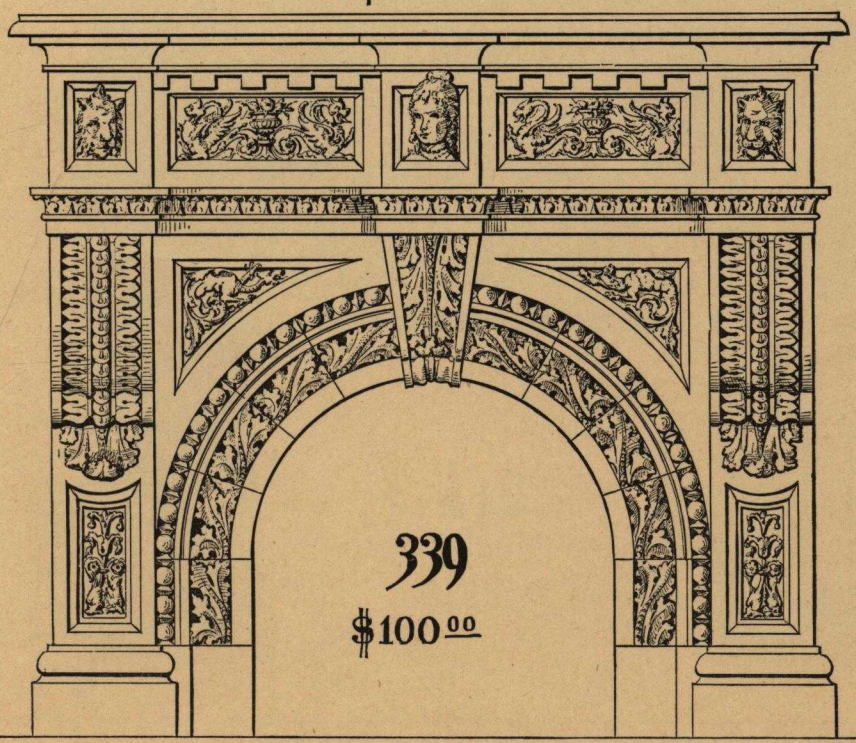
341
$75.00



338

$60.00

3/4 *Inch Scale.*

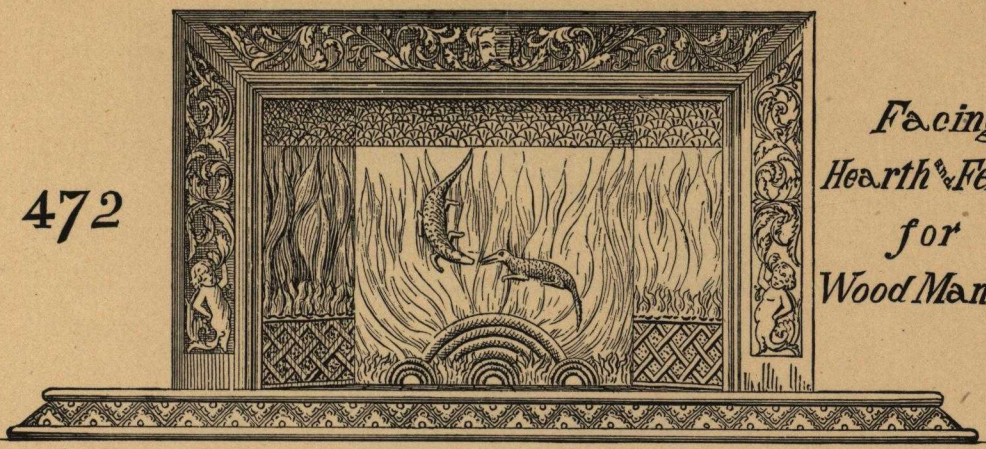


339

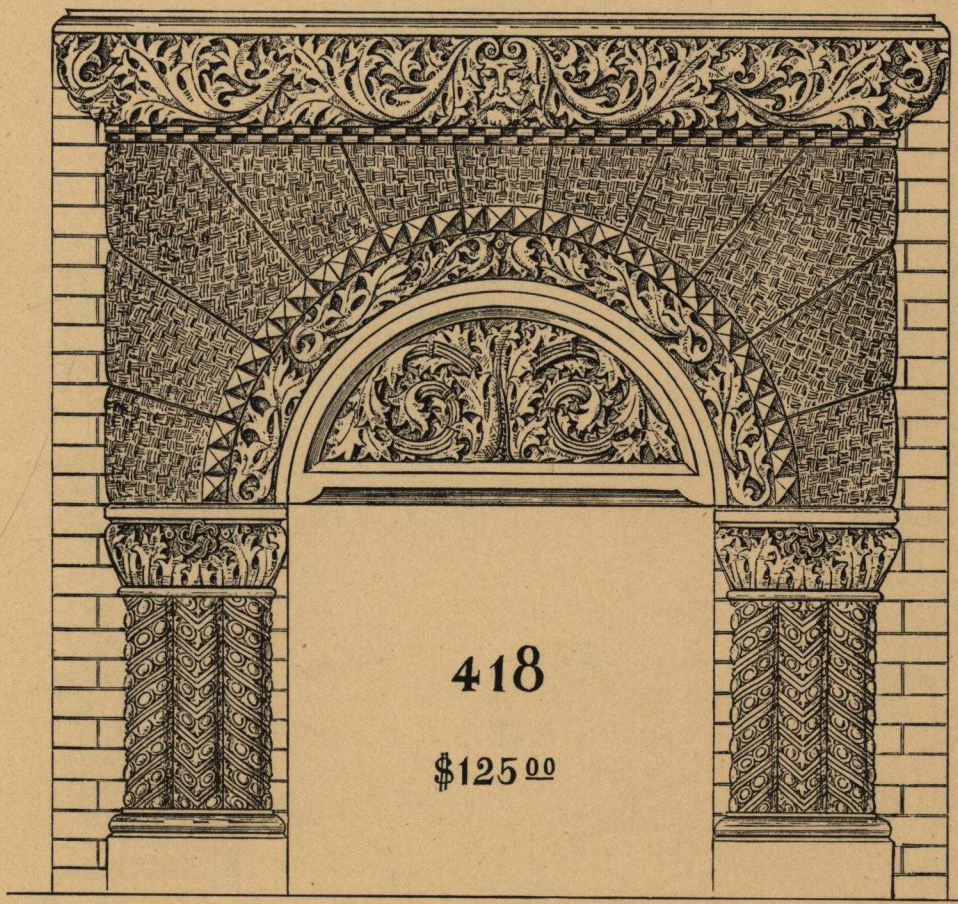
$100.00

Terra Cotta Company.

472



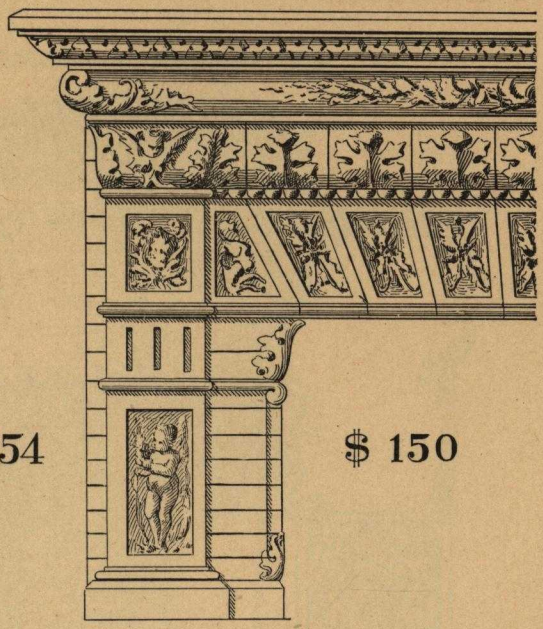
Facing Hearth & Fender for Wood Mantels



418

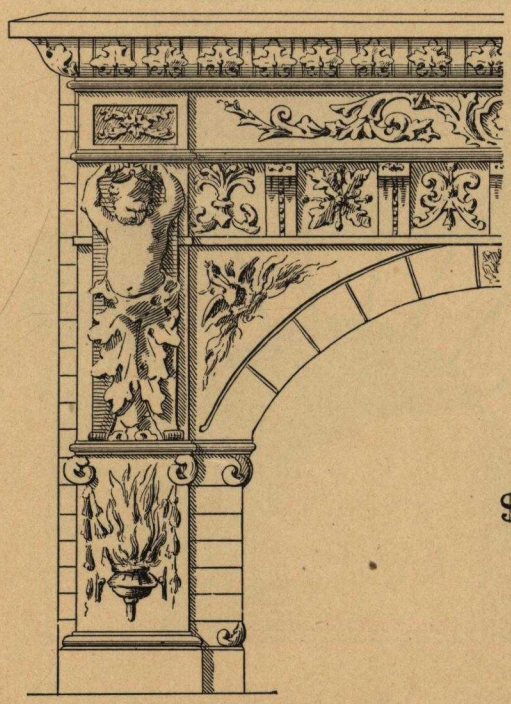
$125.00

3/4 Inch Scale.



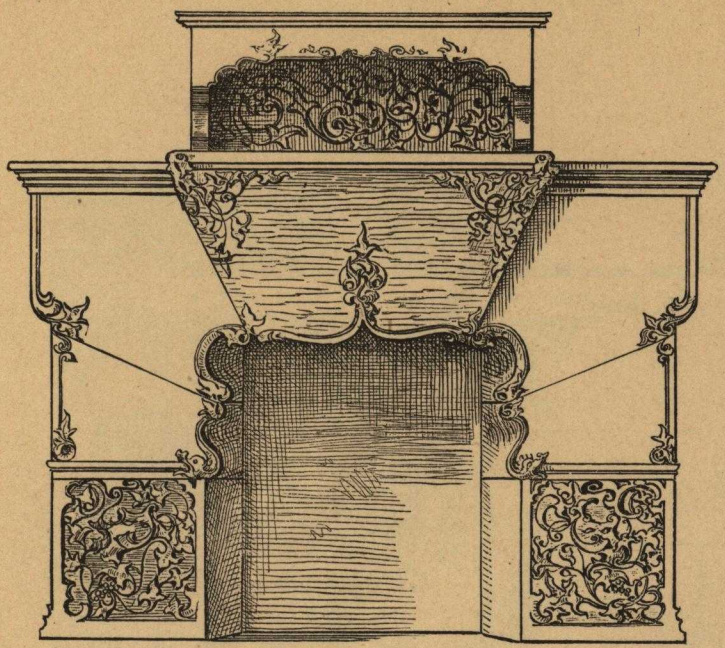
354 $ 150

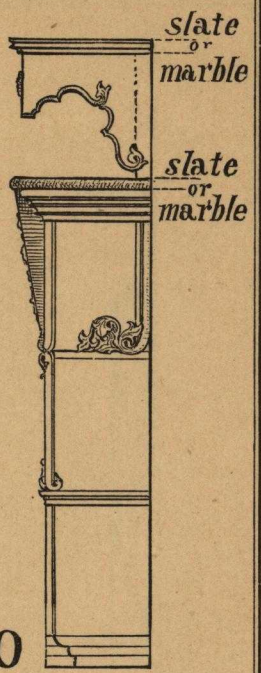
Scale, 3/4 Inch.



355

$ 200





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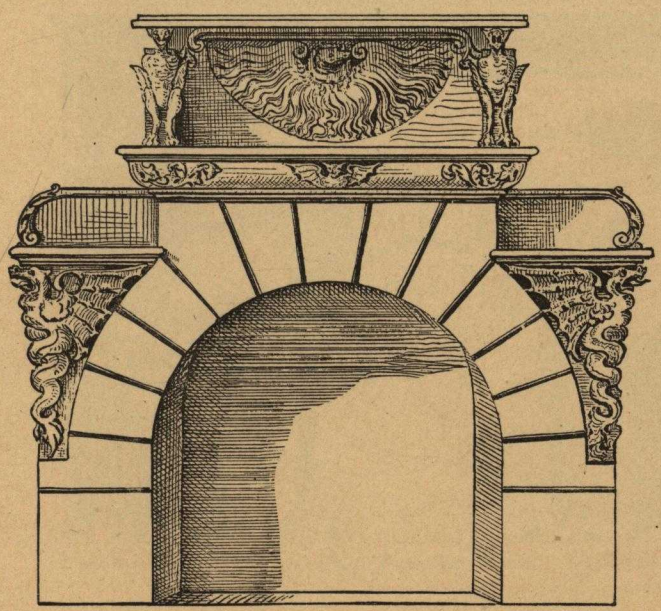
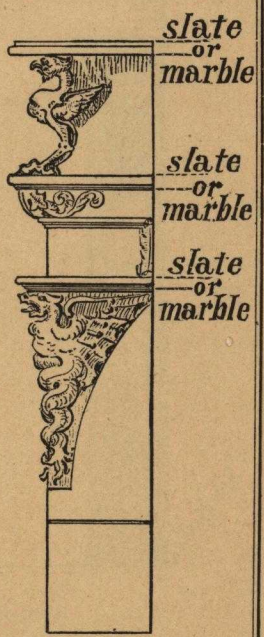


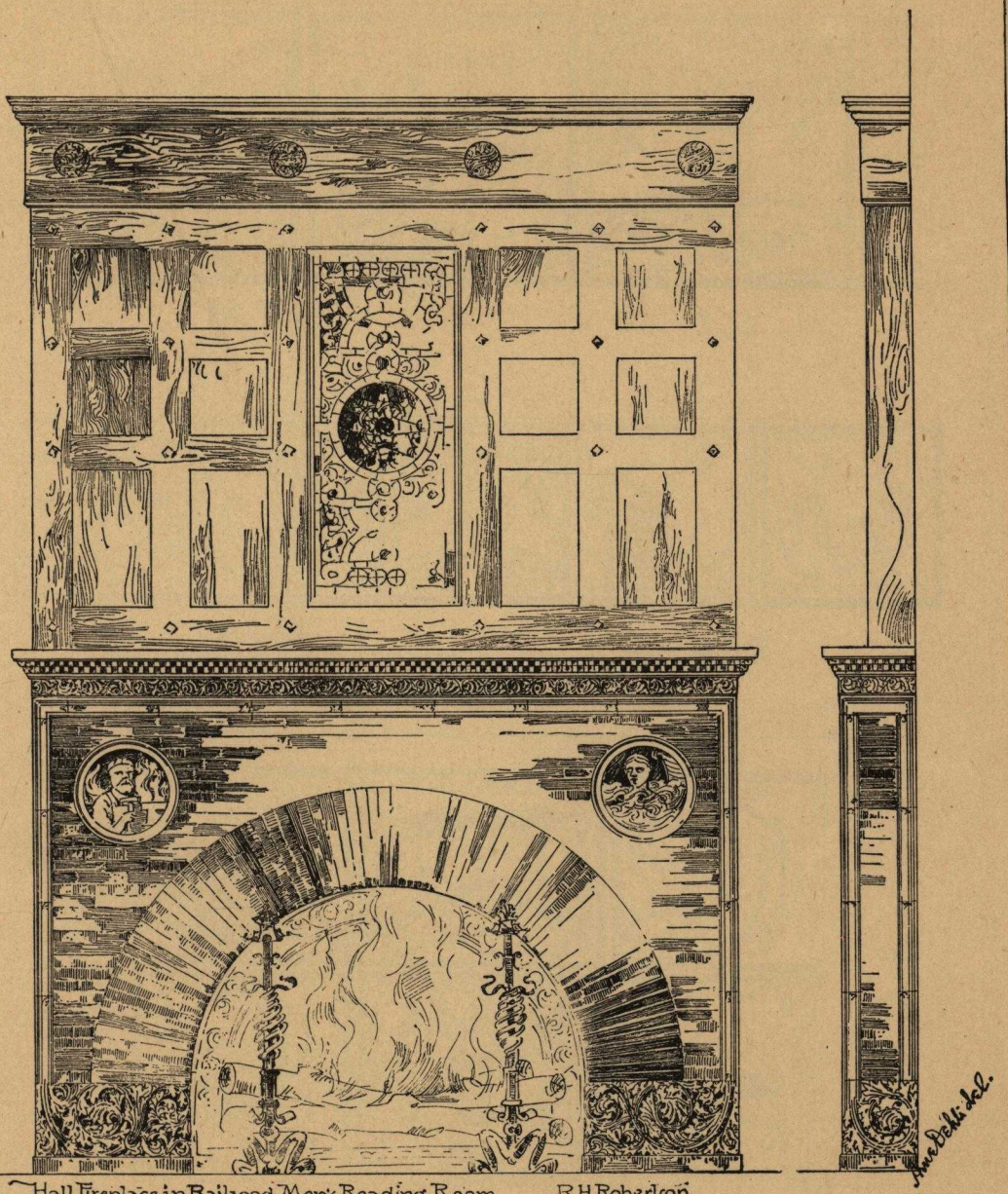


509

Designs by J.L. Silsbee.

Scale ½ Inch.

Terra Cotta Company.

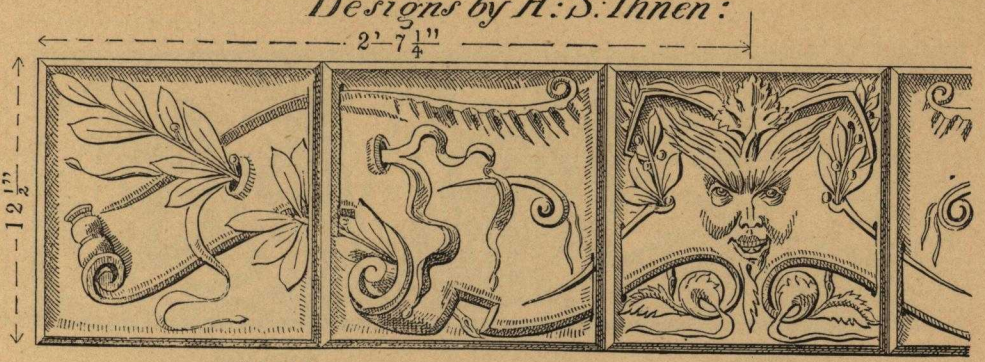


Hall Fireplace in Railroad Men's Reading Room

R H. Robertson
A J. Manning Archts Associated

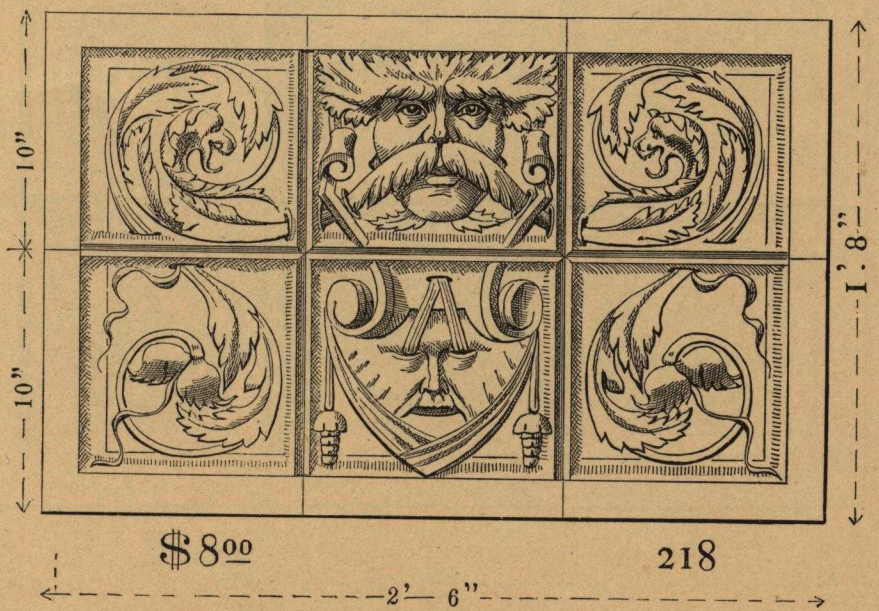
Terra Cotta Company.

Designs by H. S. Ihnen:



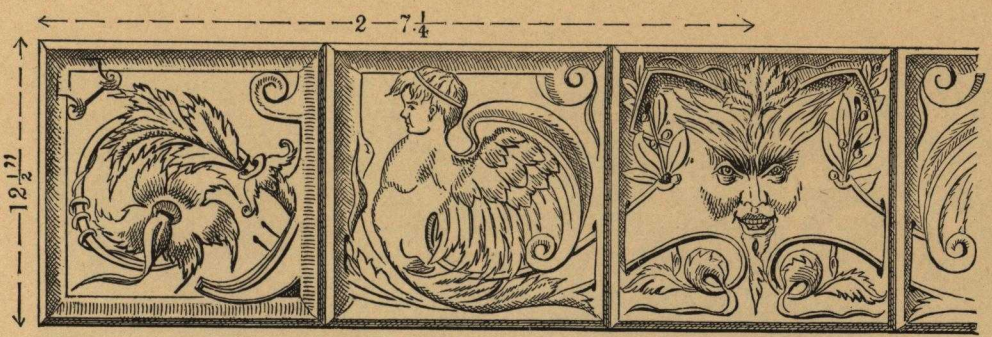
$9.00 192

$8.00 457



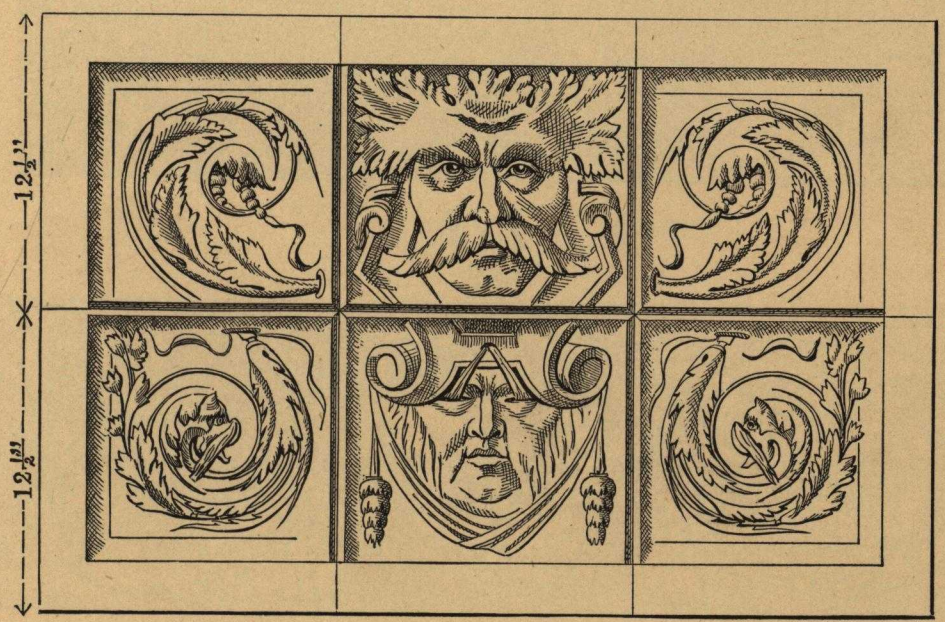
$8.00 218

Terra Cotta Company.



$10 00 198

$7 00 219



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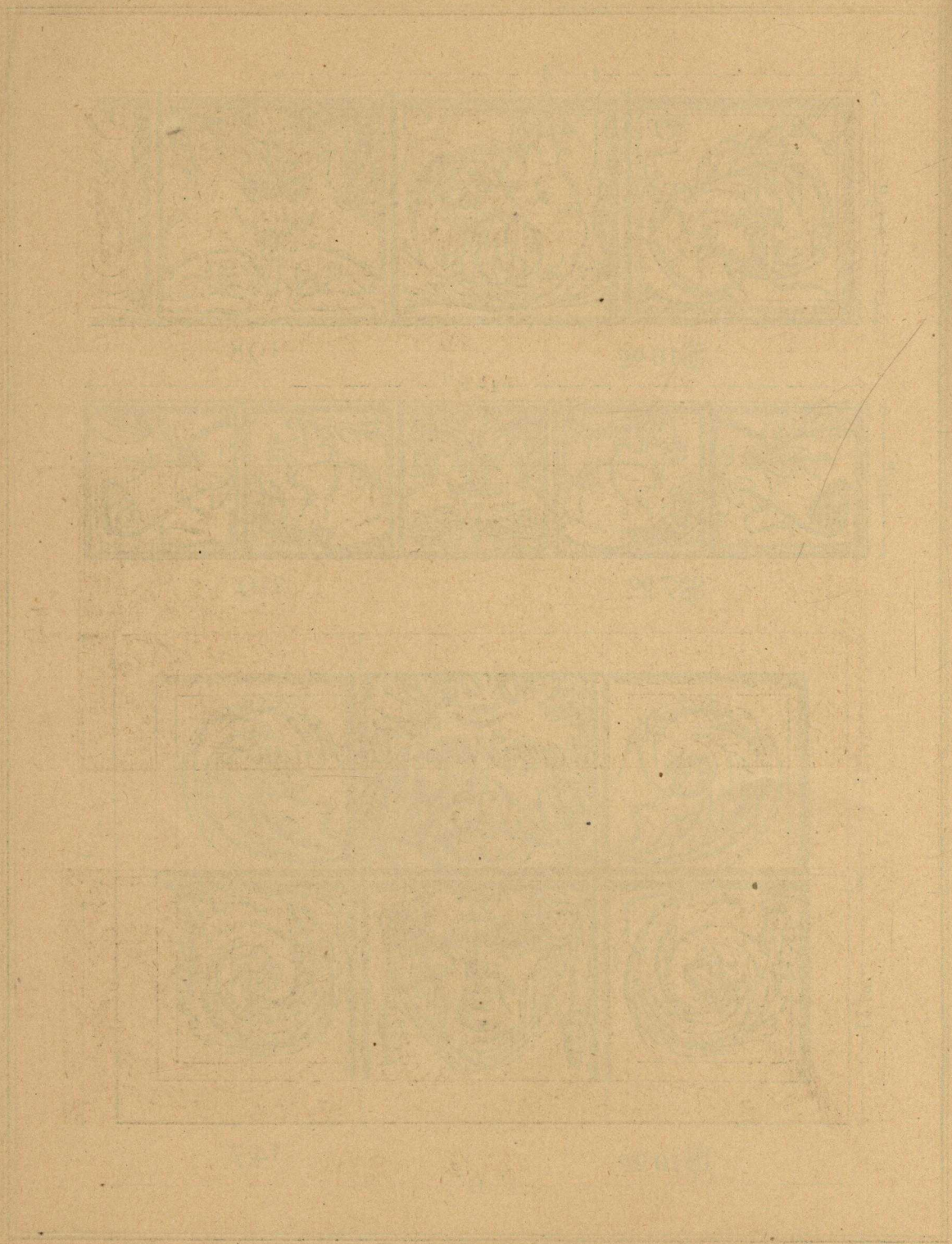
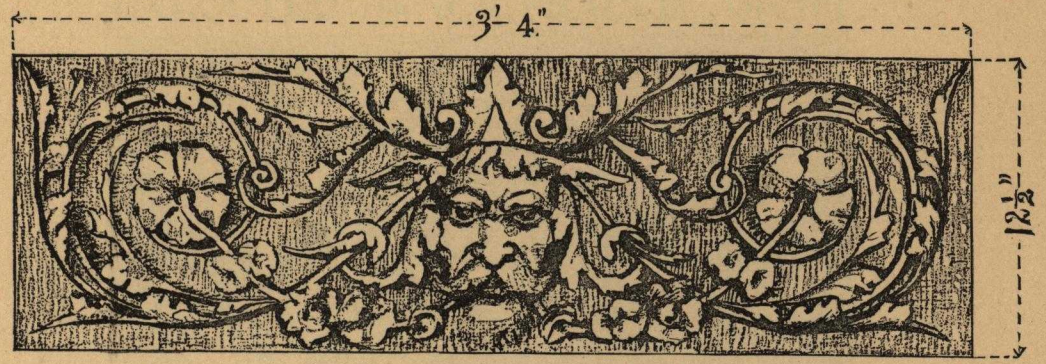
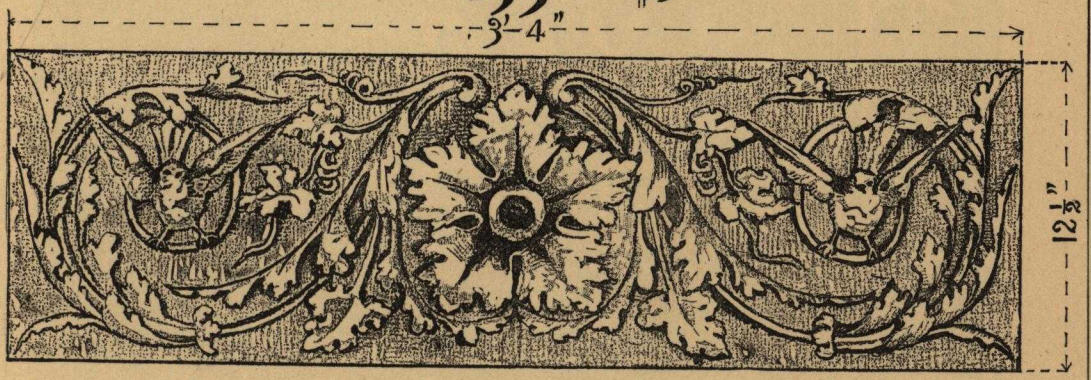
Terra Cotta Company.





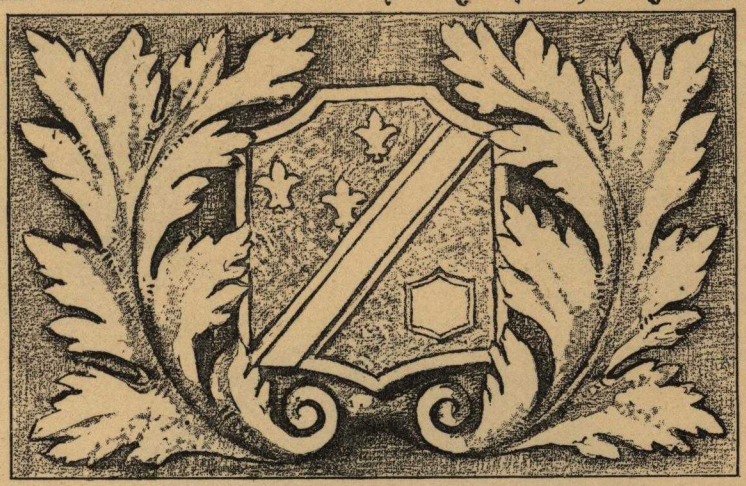
432 $7.00

433 $9.00

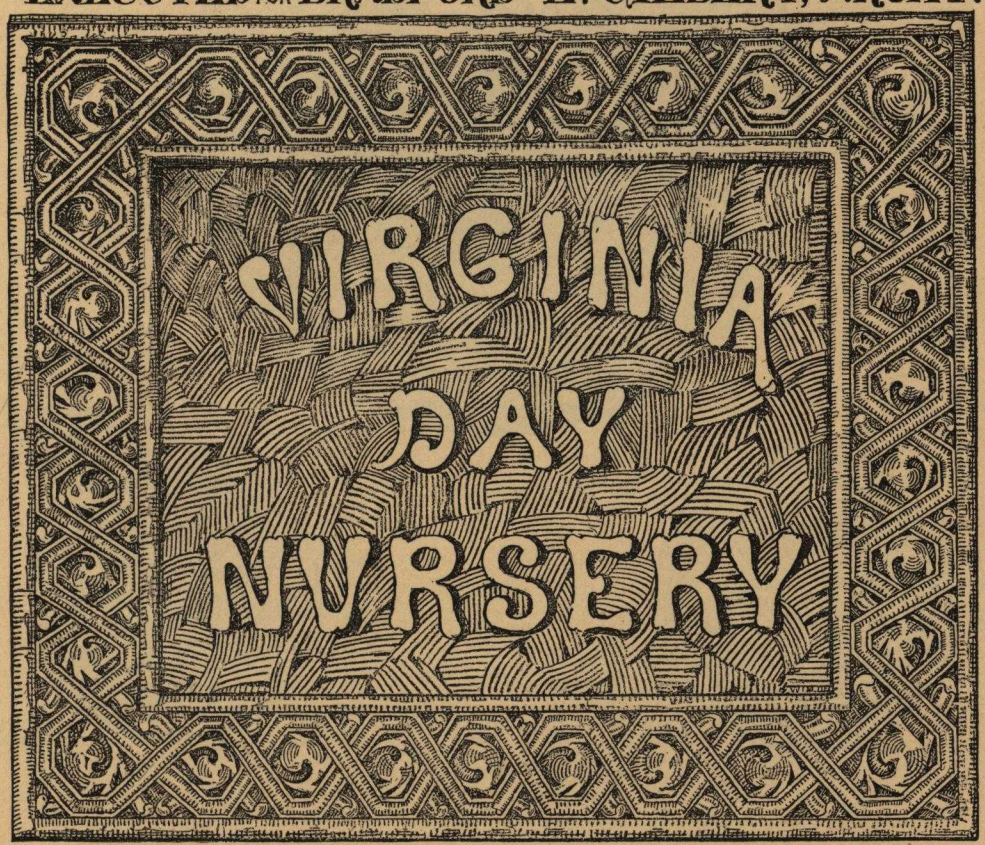


434 $7.00

EXECUTED FOR J. G. PRAGUE, ARCHT.



EXECUTED FOR BRADFORD L. GILBERT, ARCHT.



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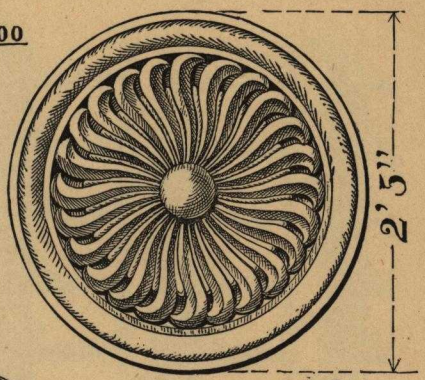

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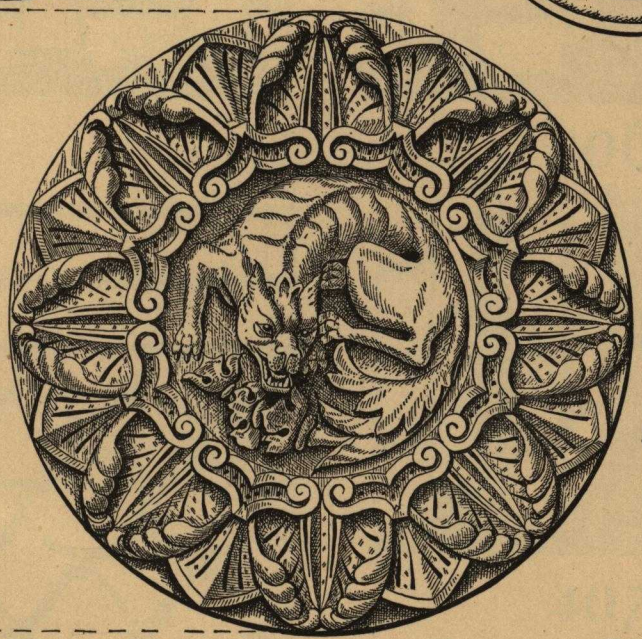
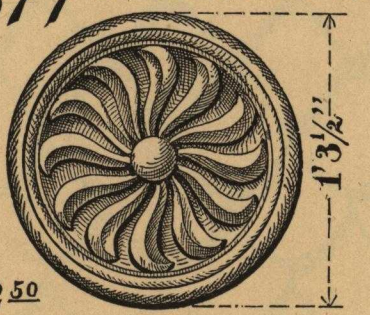


379

$12.00

377



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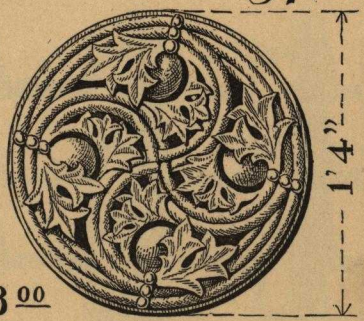
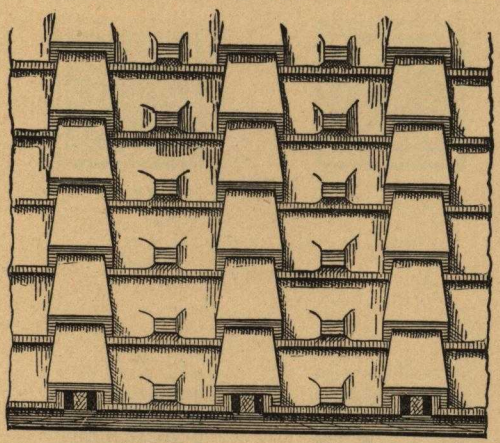


404

1 *Inch Scale*



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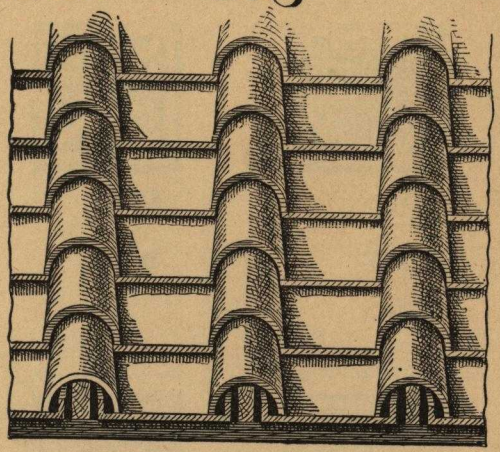

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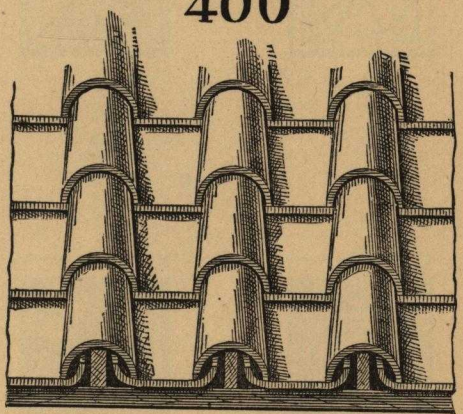

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247

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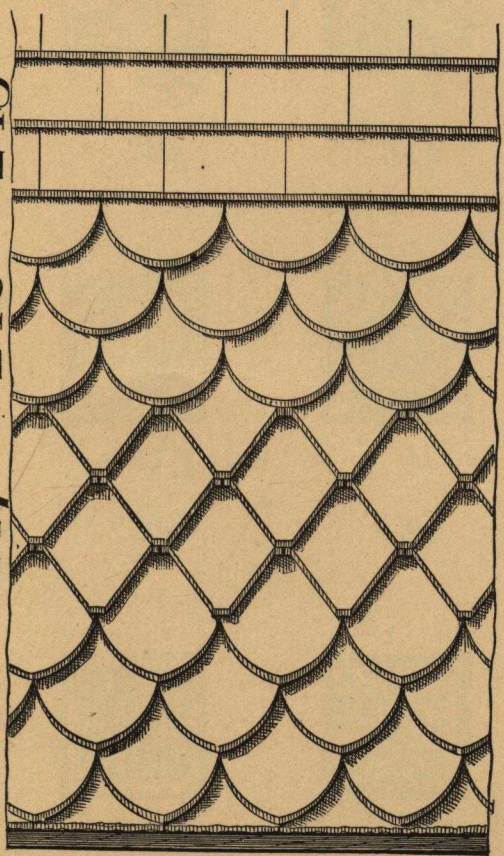

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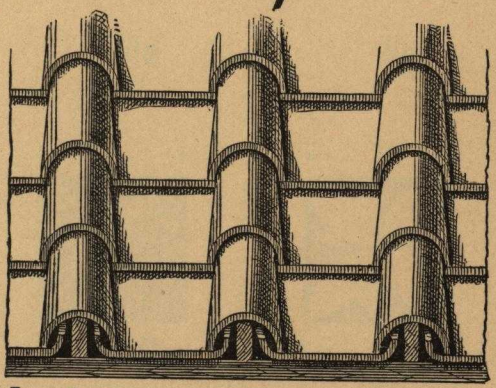
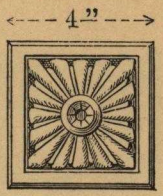


Prices furnished on application

Terra Cotta Company.

113
25¢

111
25¢



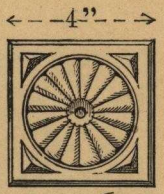
112
25¢

115
25¢

155
20¢

93
35¢

92
35¢

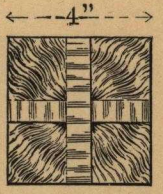


161
20¢

173
20¢

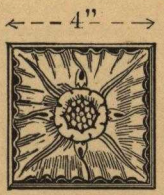
91
30¢

90
30¢



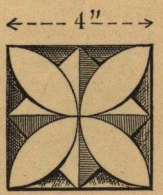
179
20¢

114
25¢



185
25¢

89
25¢



149
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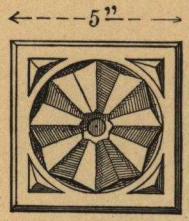
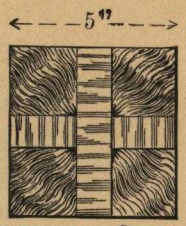


156
25¢

174
20¢



180
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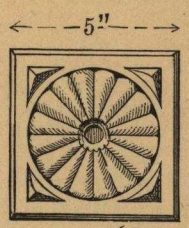


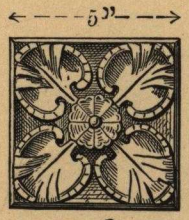
162
25¢

80
30¢

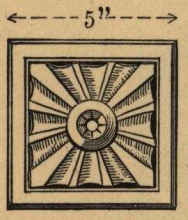
85
30¢

84
30¢

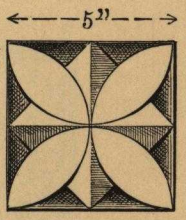
81
40¢



82
30¢



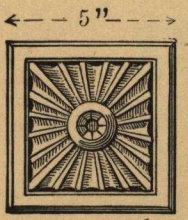
110
25¢



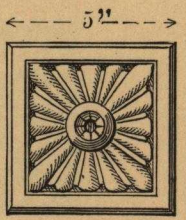
150
20¢

83
40¢

109
25¢



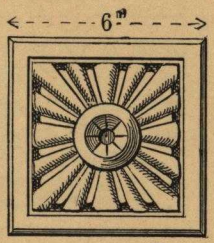
106
25¢



108
25¢

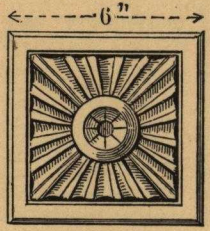
107
25¢

102
35¢



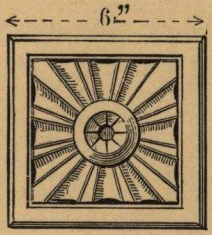
103
35¢

104
35¢



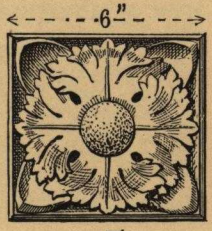
101
35¢

53
45¢



105
35¢

175
30¢



52
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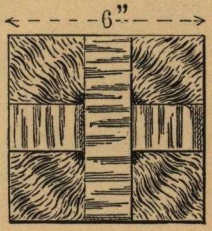

181
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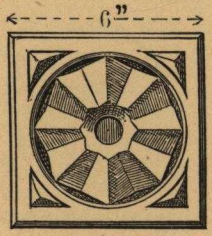

157
25¢

187
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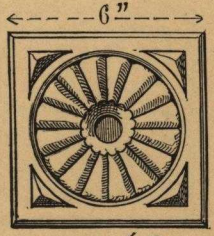
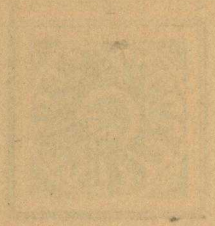
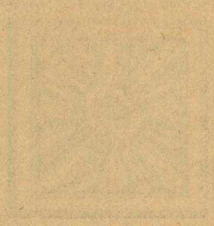
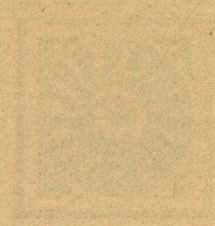
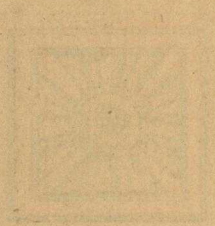
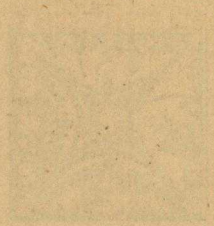
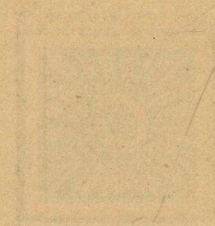
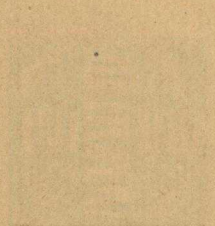
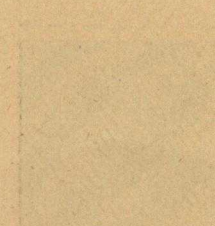
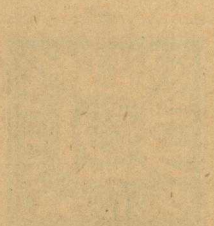
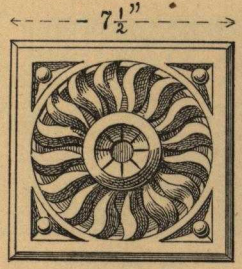


163
25¢

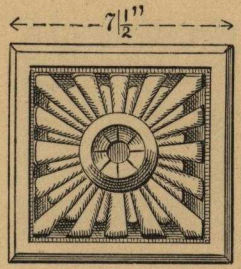














118
50¢



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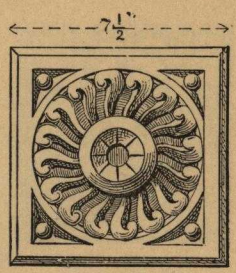

120
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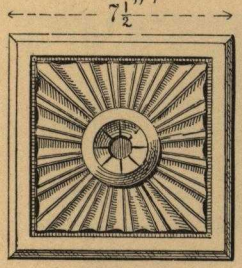

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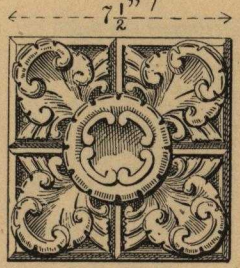

205
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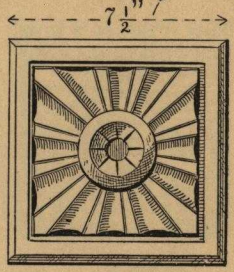

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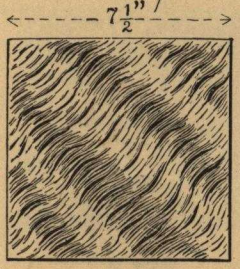

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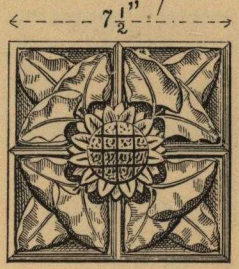

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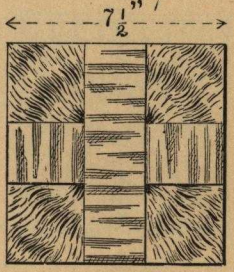

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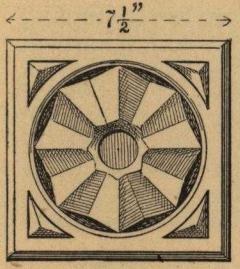

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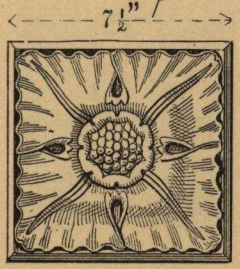

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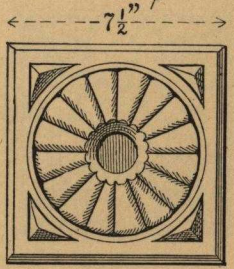

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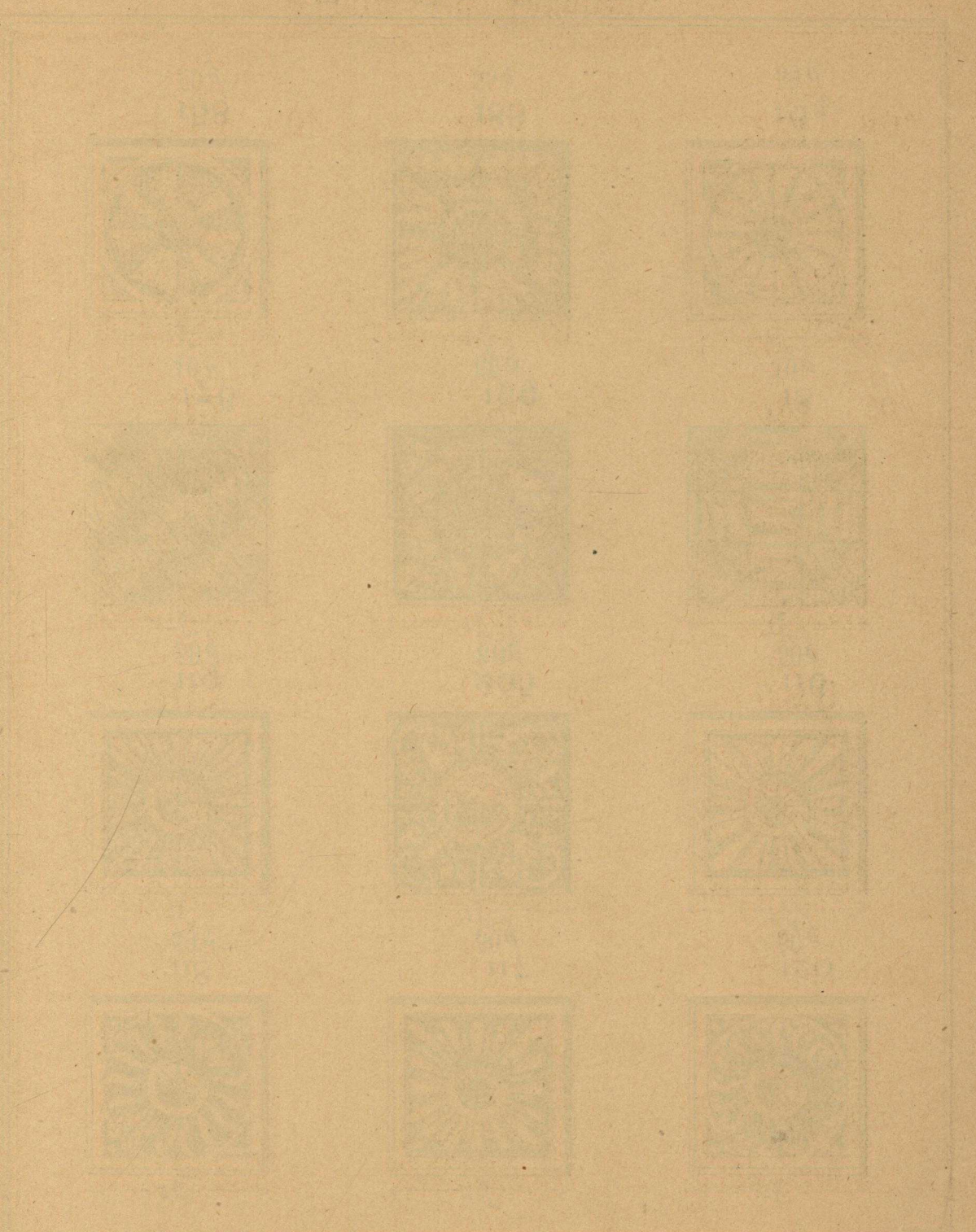

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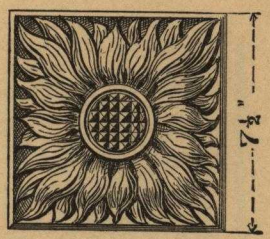


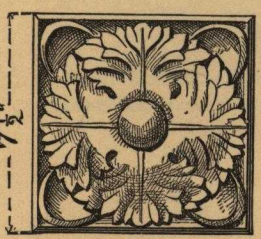
347 45¢

456 40¢

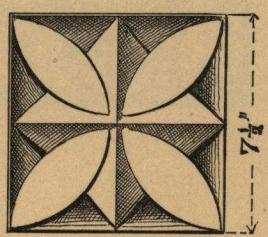
293 50¢

350 55¢

256 50¢



412 50¢



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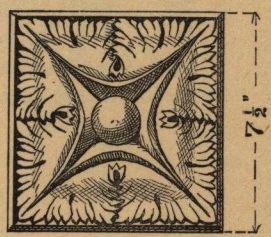
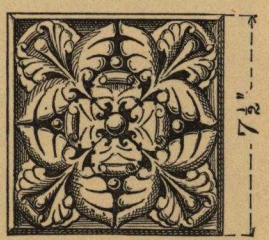


414 50¢

454 60¢



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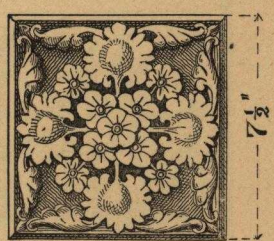

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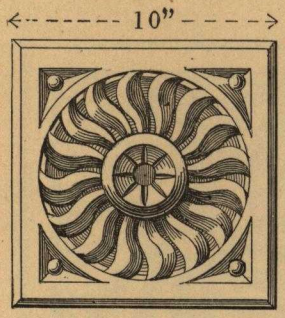

122
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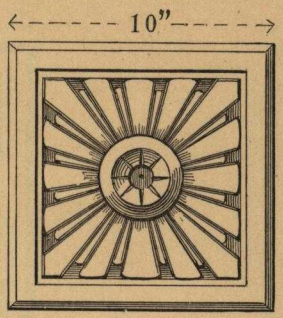

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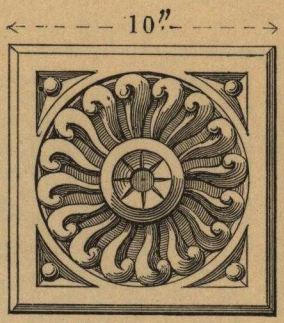

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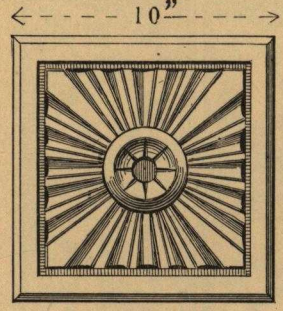

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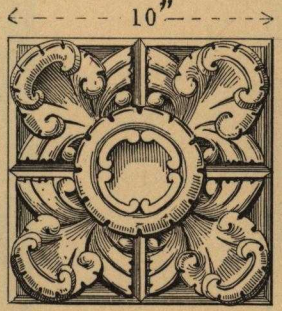
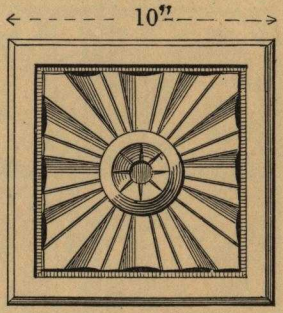


206
$1.00



121
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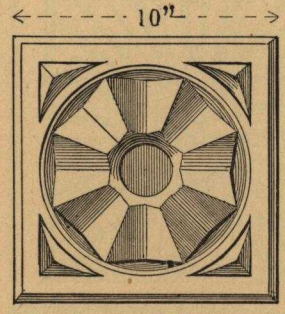

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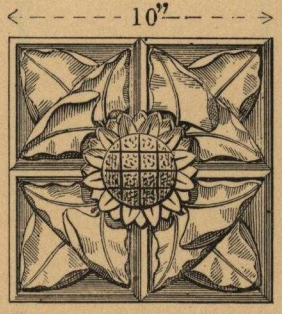

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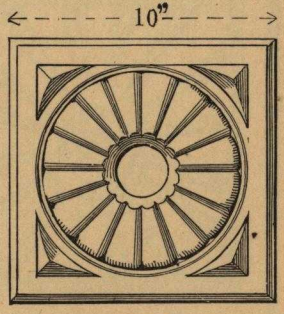

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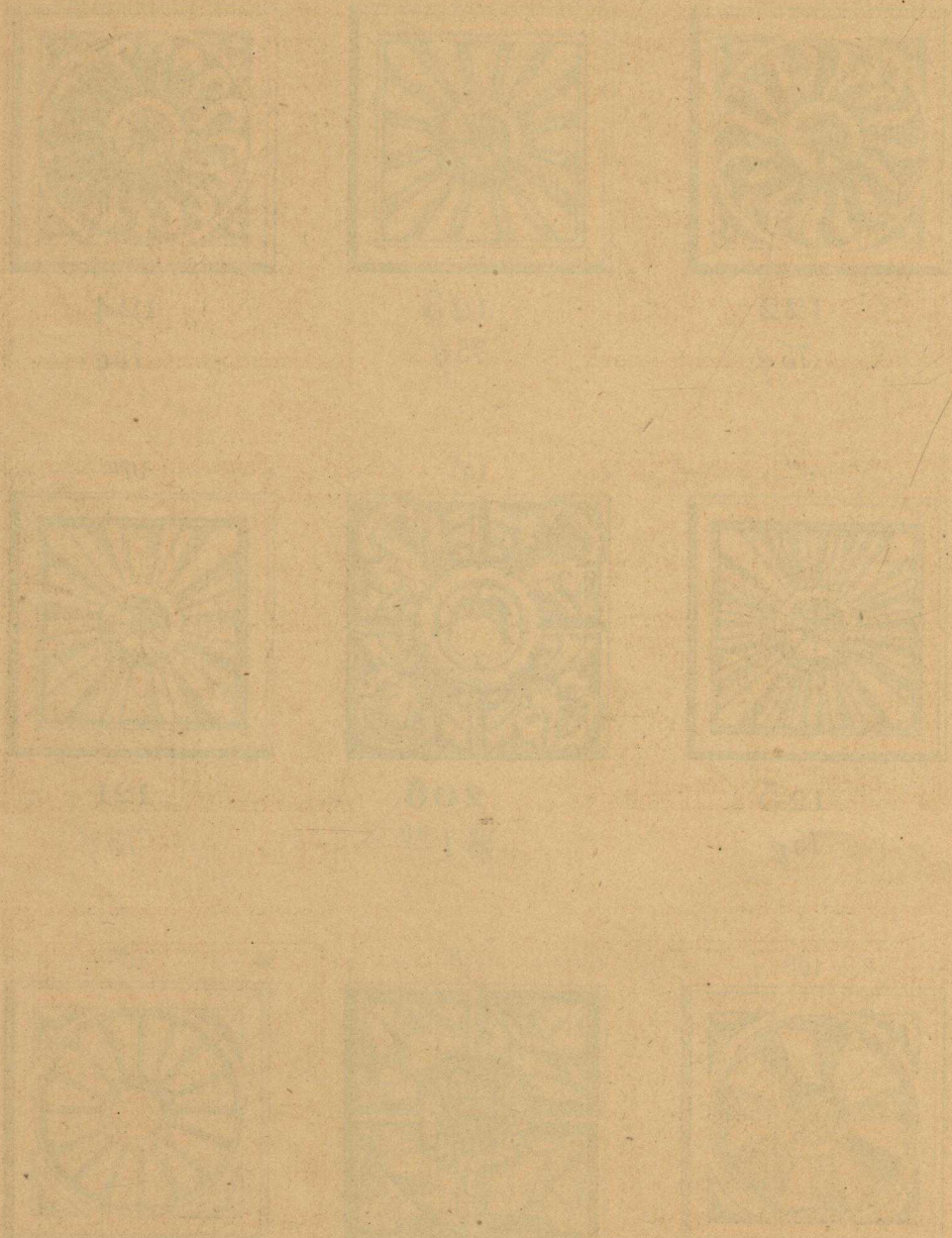

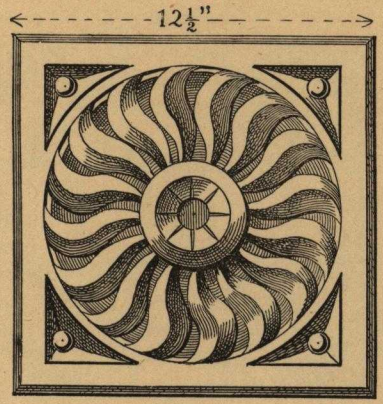

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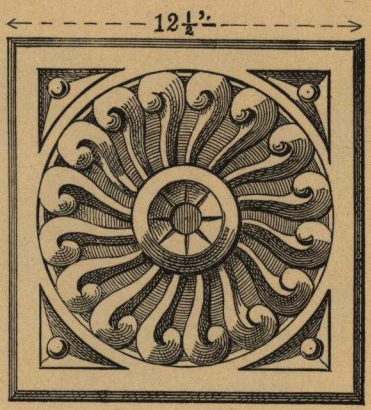

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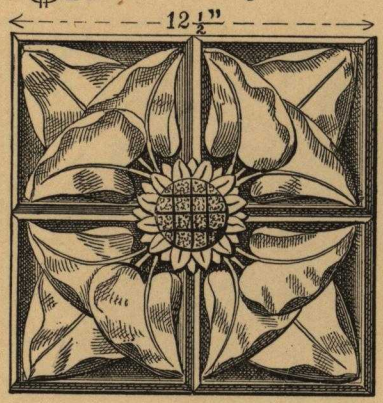

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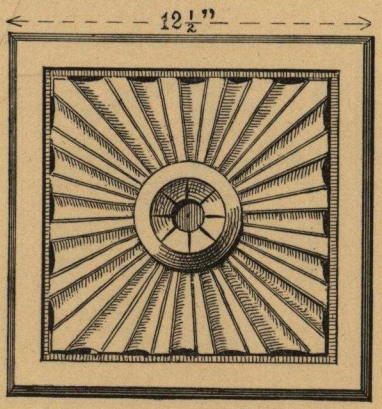

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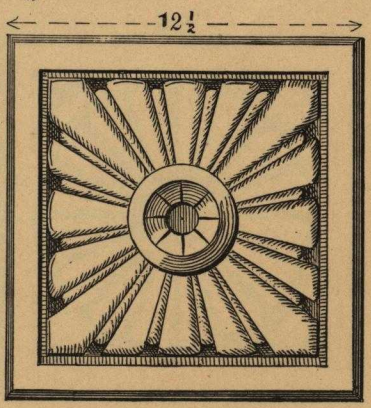

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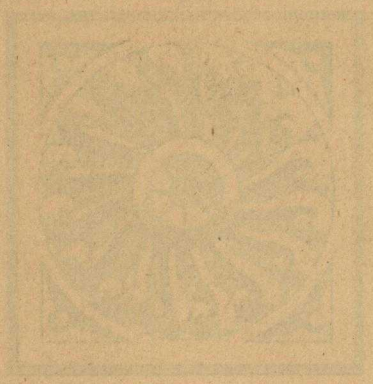

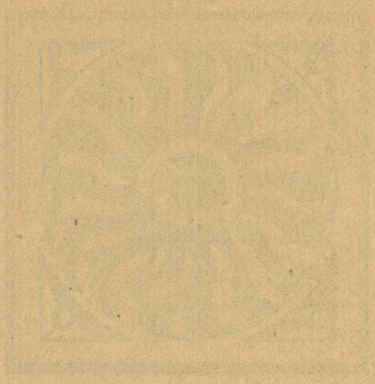

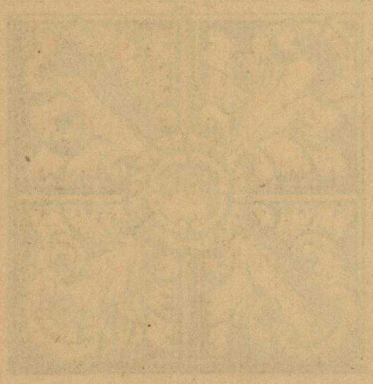

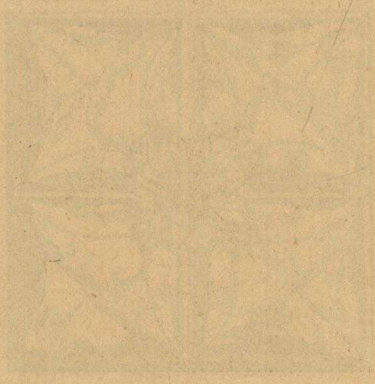

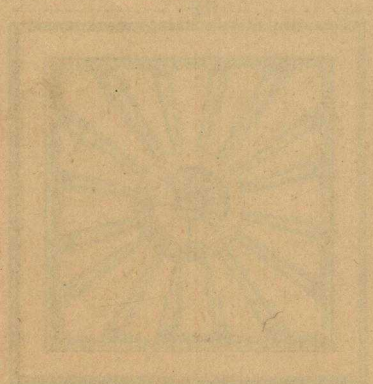

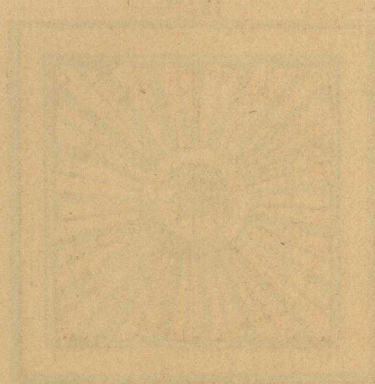

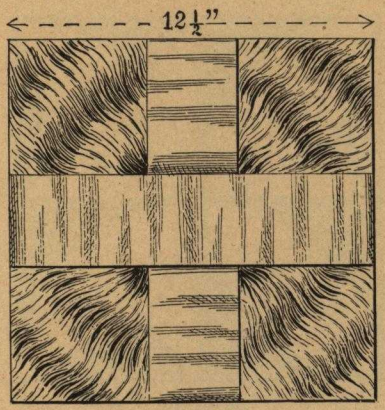

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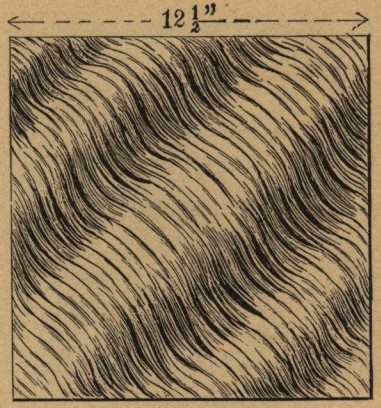

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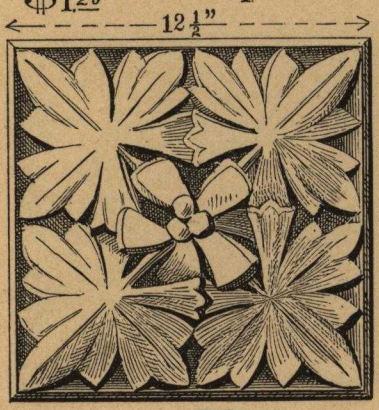
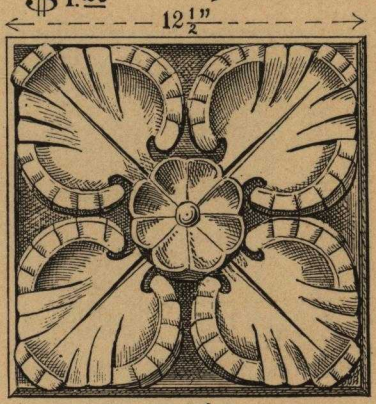


$2.00 58



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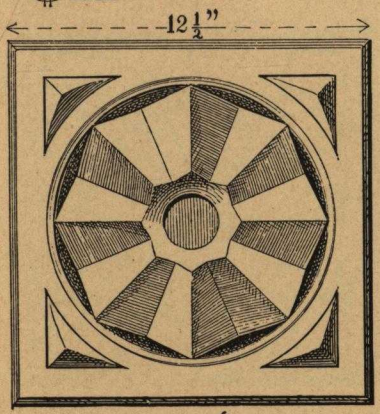

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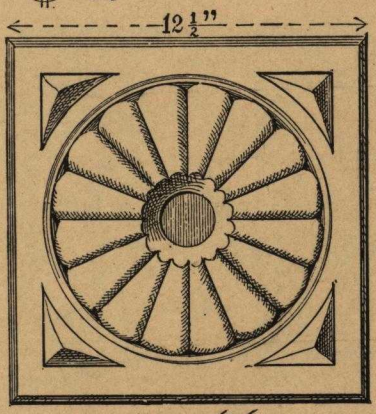

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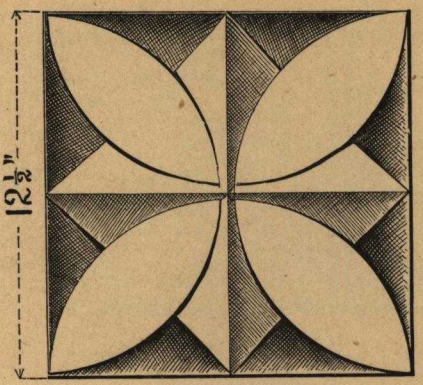
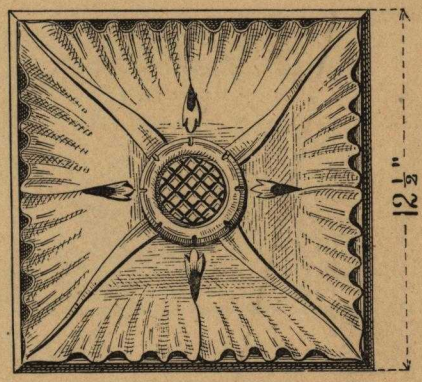
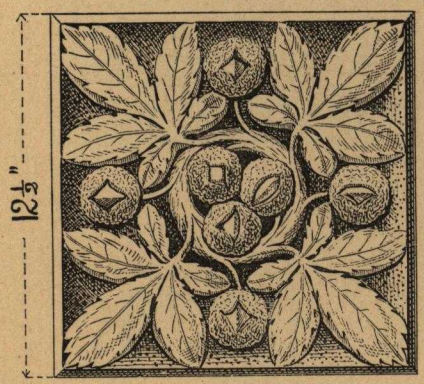


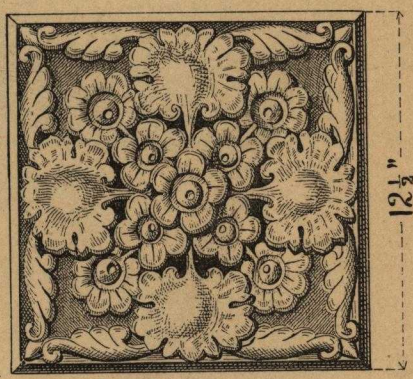
209 $1.00



289 $1.50

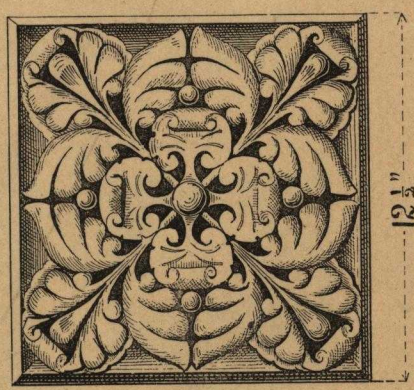


254 $2.00

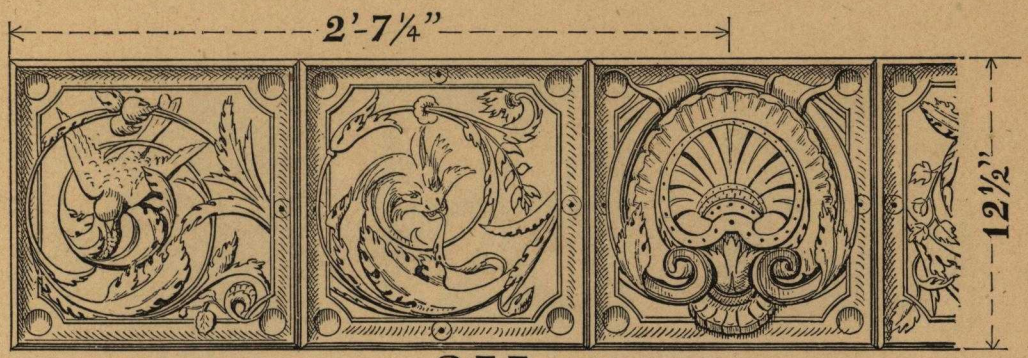


222 $2.00

208 $2.00

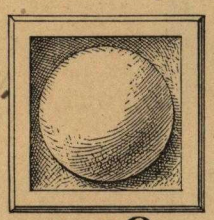


224 $2.00



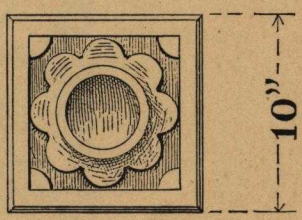
255 $10.00

310 $8.00

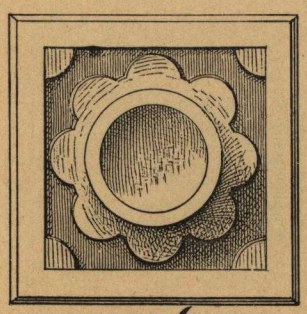


448 75¢

450 $1.50

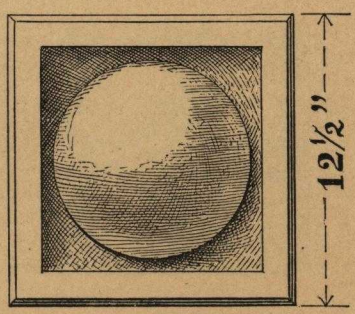


449 75¢



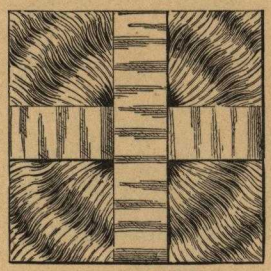
446 $1.00

306 $2.00

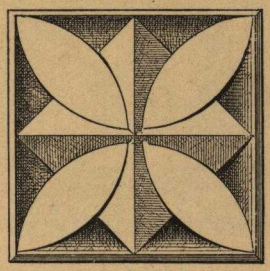


447 $1.00

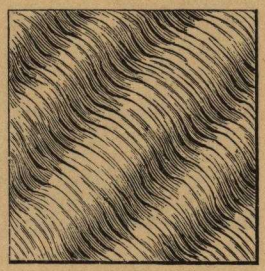
Terra Cotta Company.



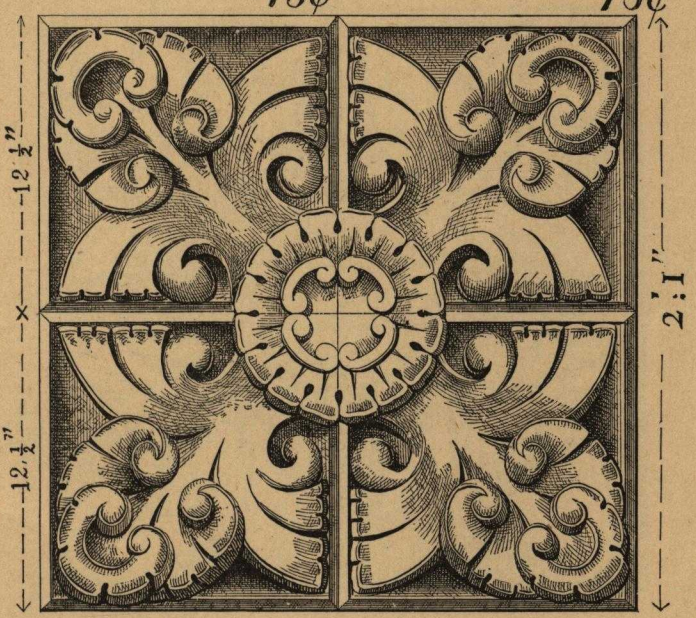
183
75¢



153
75¢

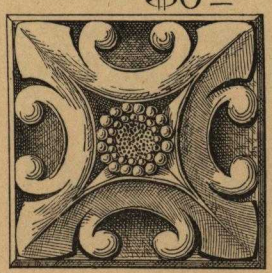


177
75¢

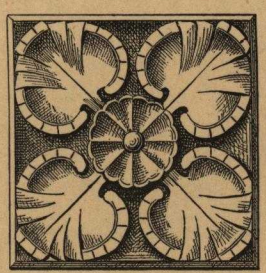


210
$6.00

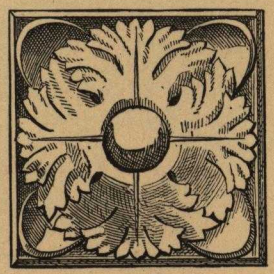
60
$1.00



182
$1.00



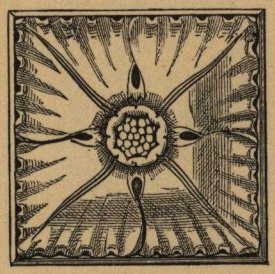
57
$1.00



10"

186

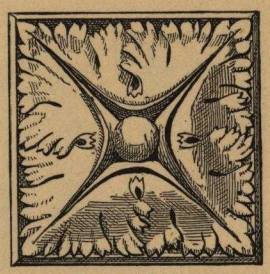
$1.00



10"

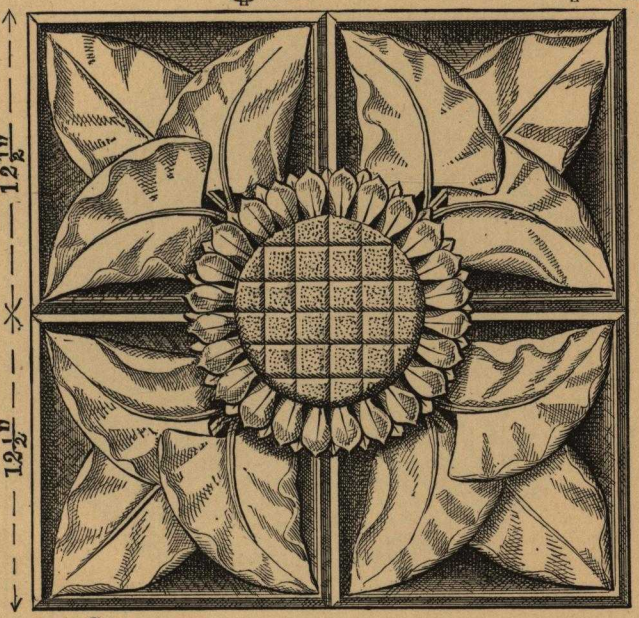
189

$1.00



97

$1.00



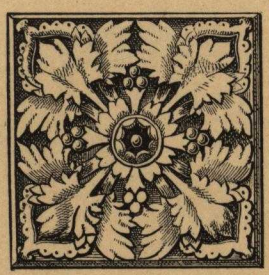
12½"

12½"

2' 1"

$6.00

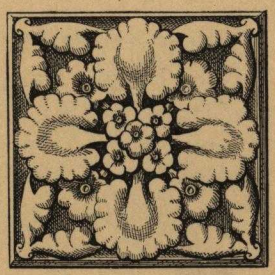
204



10"

190

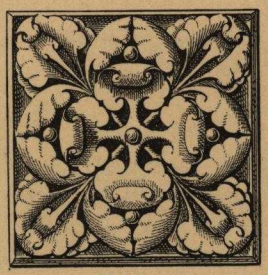
$1.50



10"

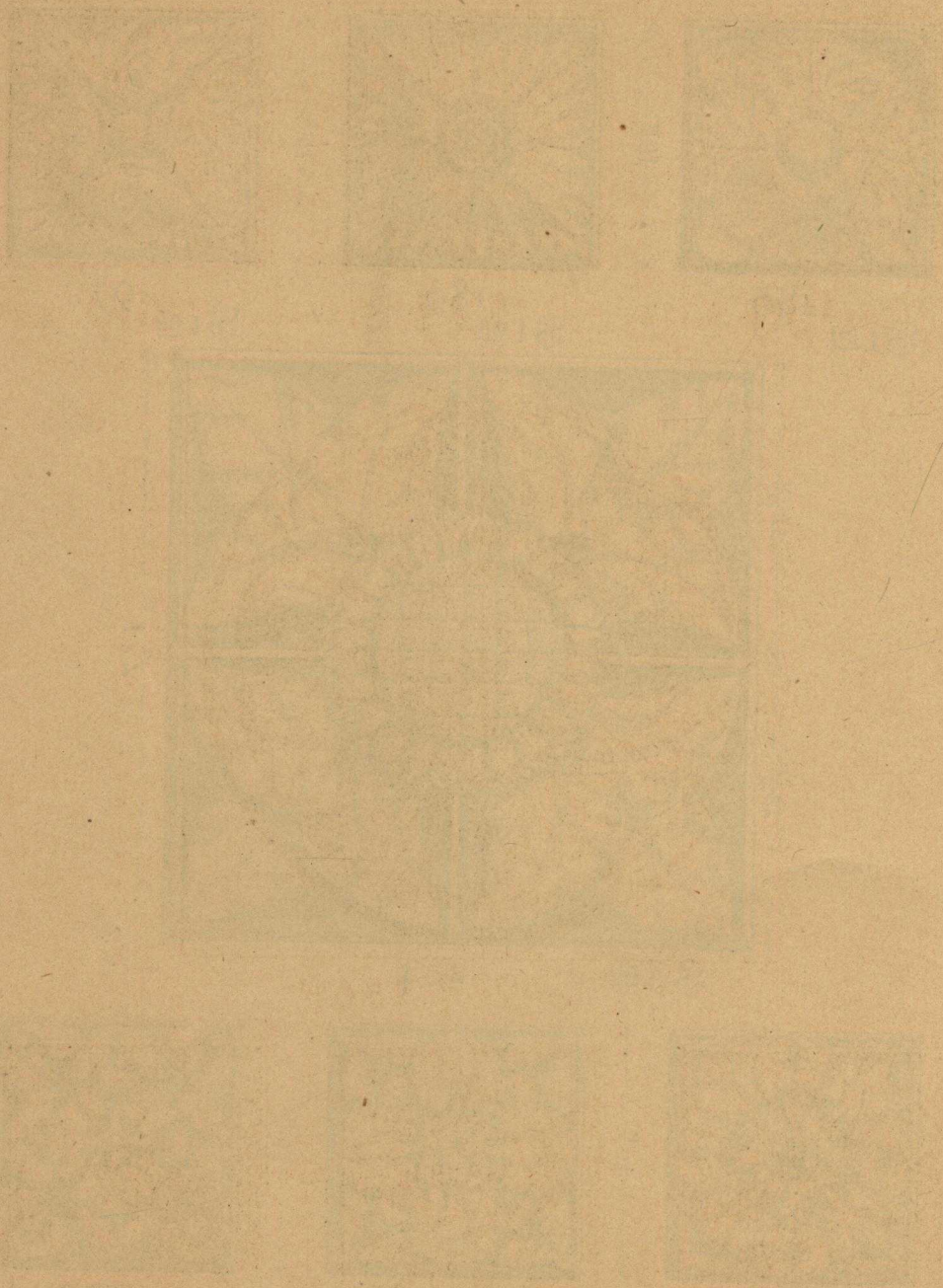
191

$1.50

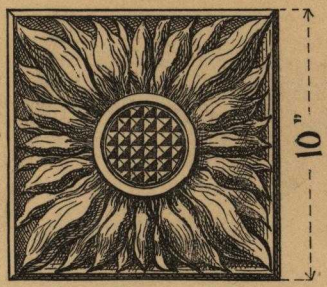


193

$1.50

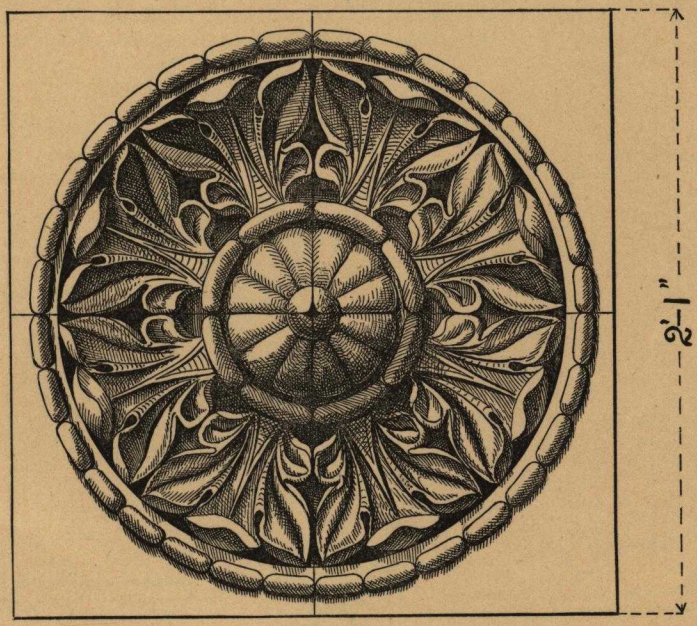


409 $2.00



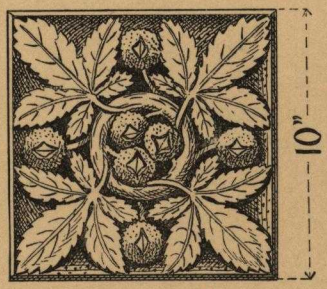
423 $1.00

410 $2.00

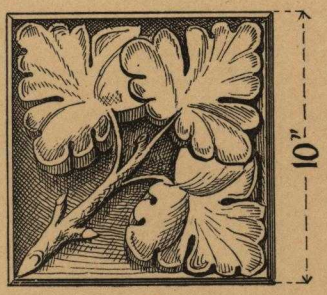


285 $6.00

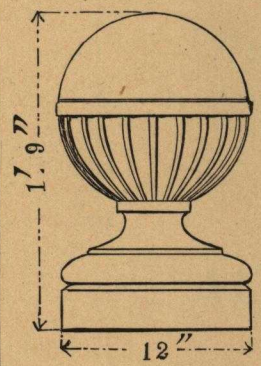
422 $1.00



225 $1.00

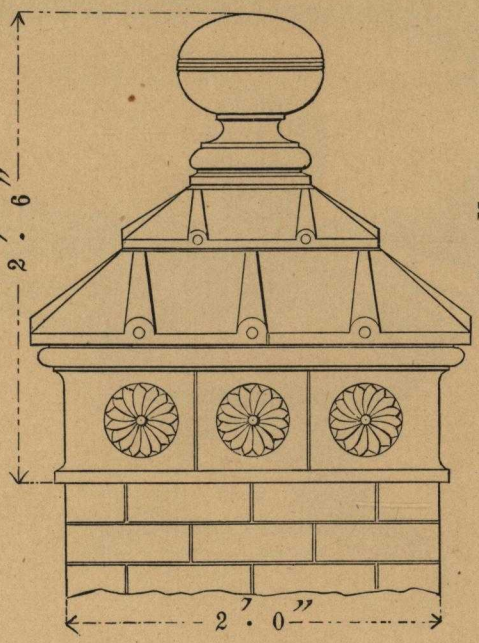


421 $1.00



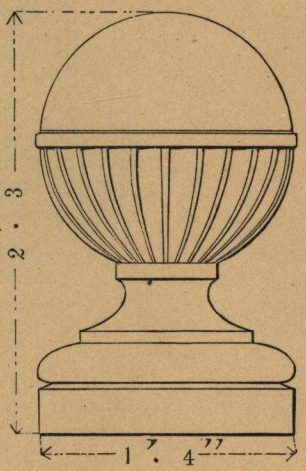
46

$6.00



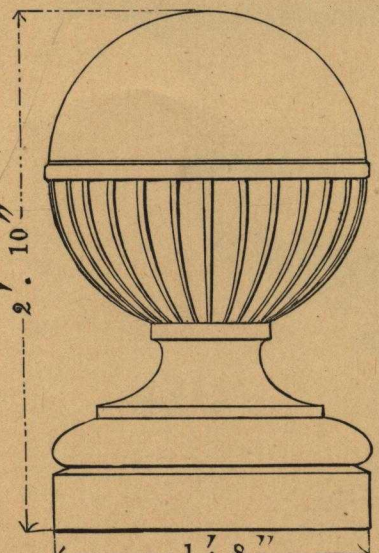
49

$25.00

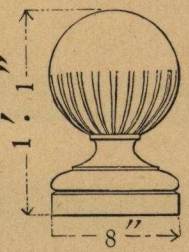


47

$9.00

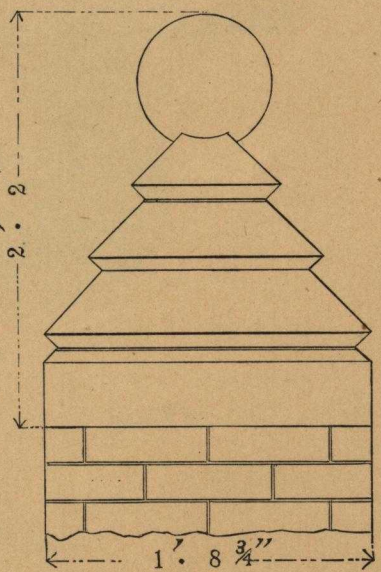


48 $12.00

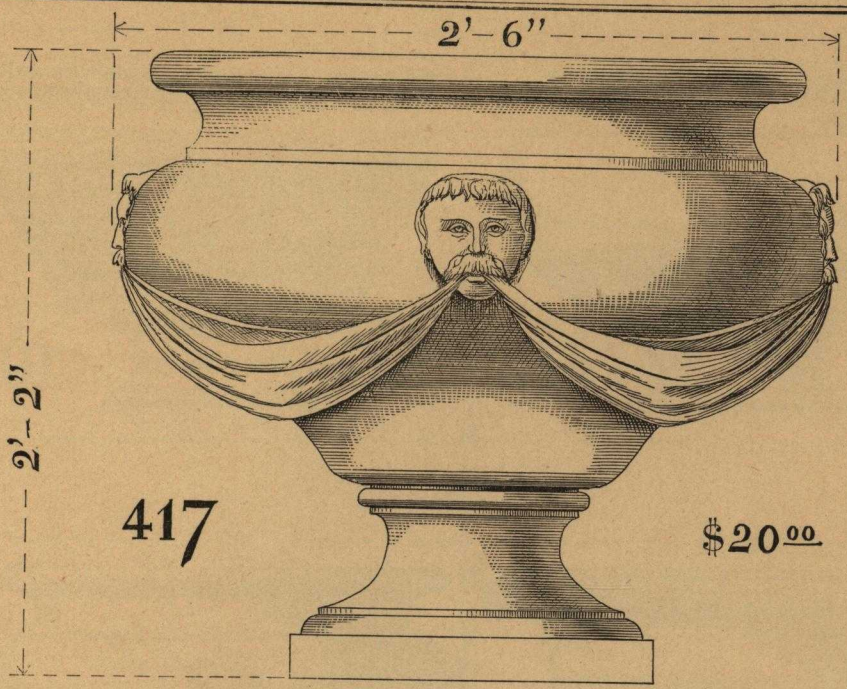


45

$3.00

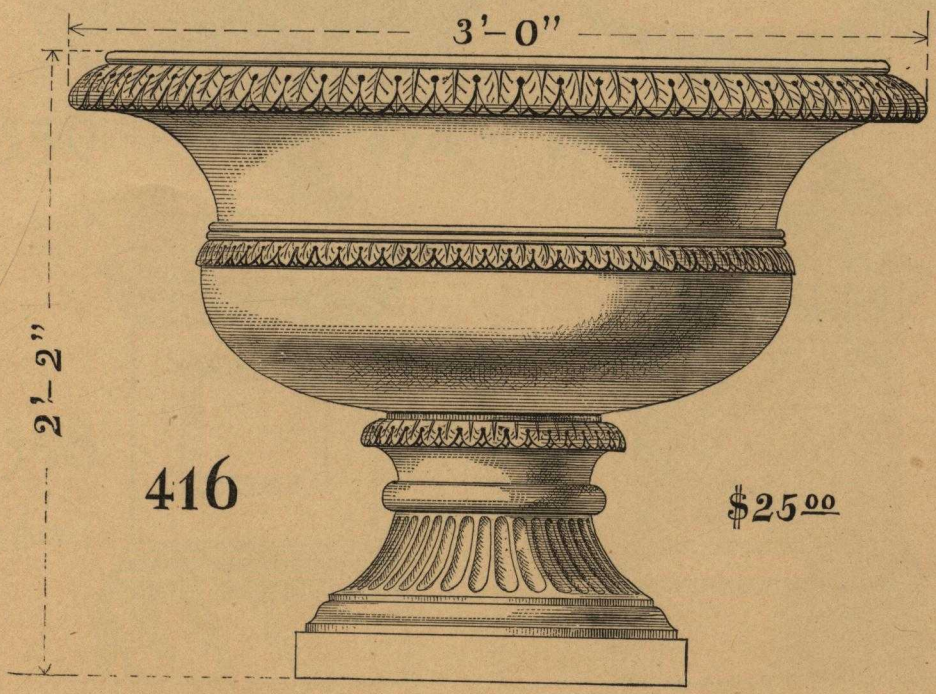


50 $12.00



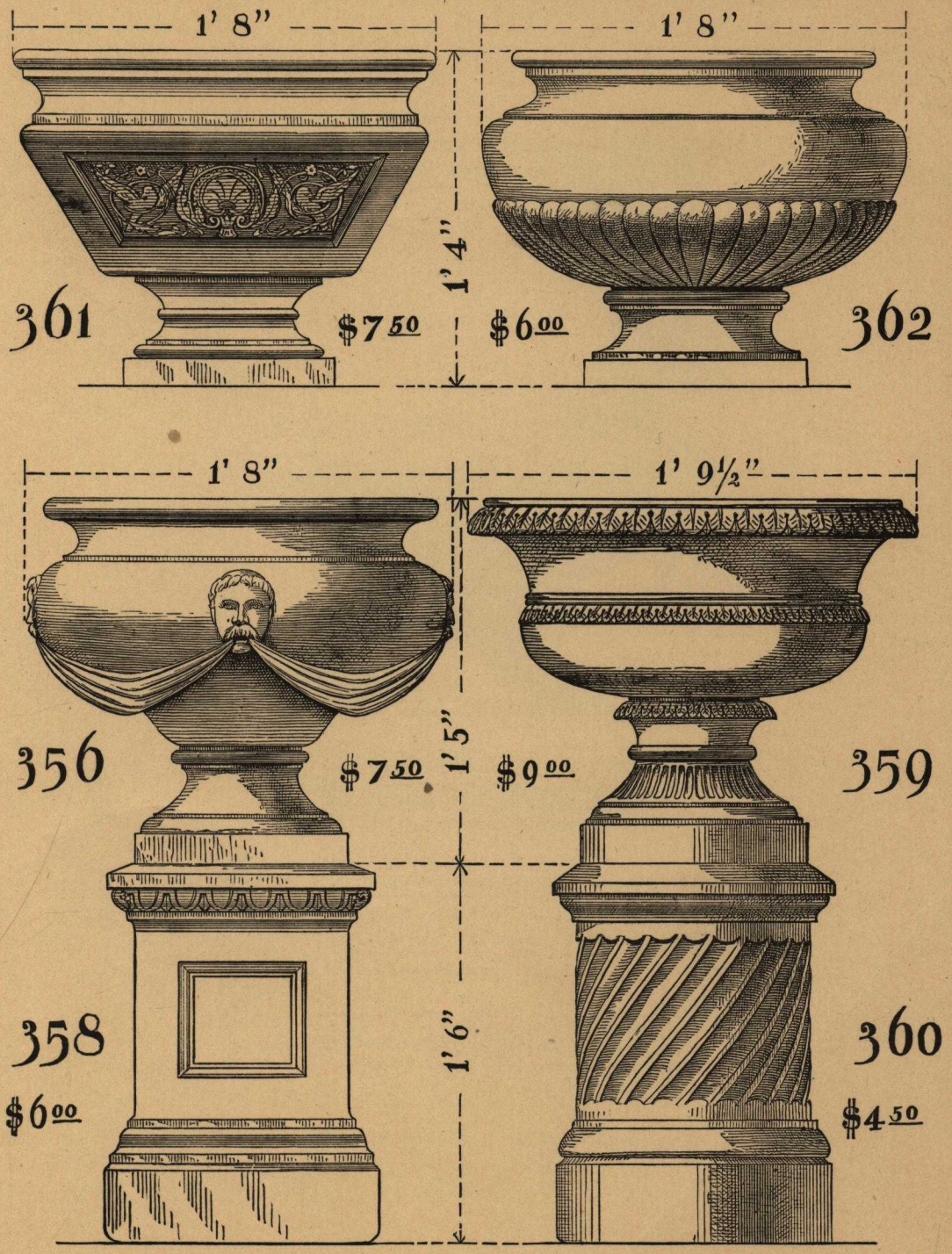
417

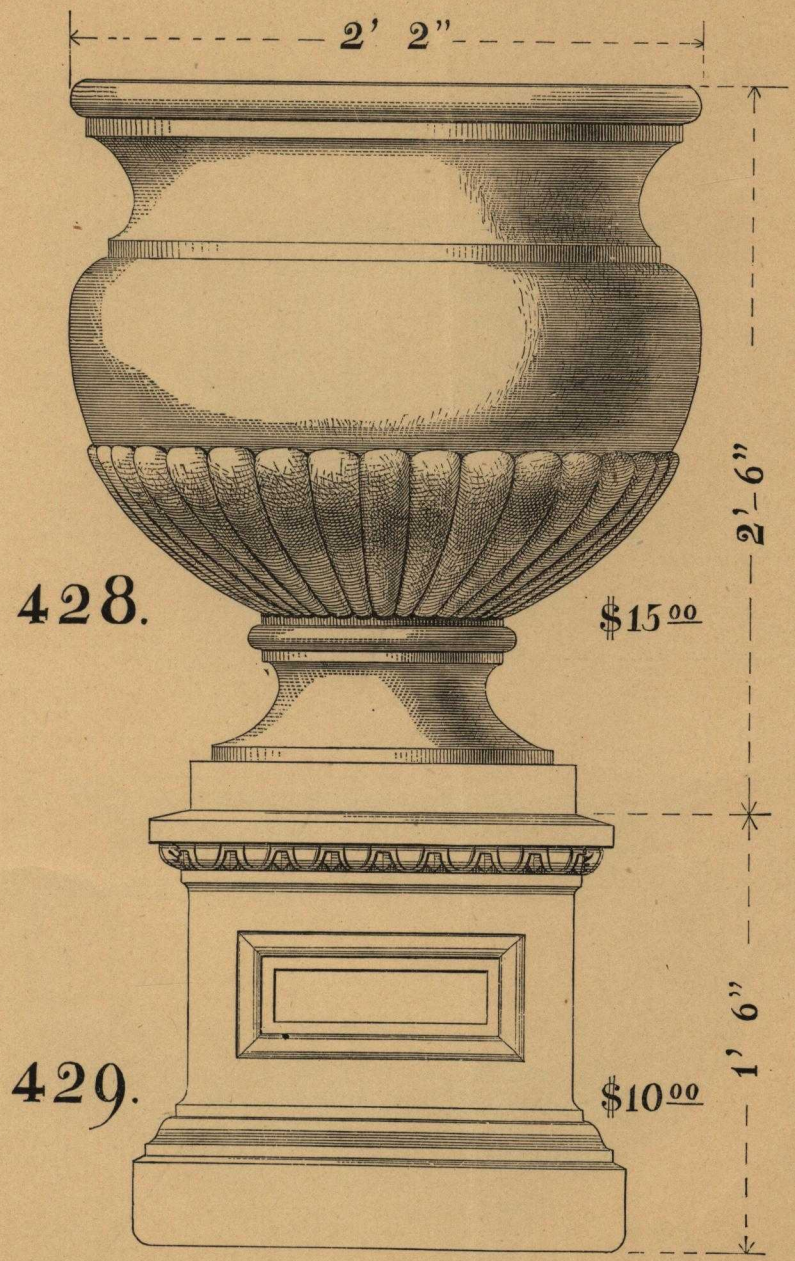
$20.00



416

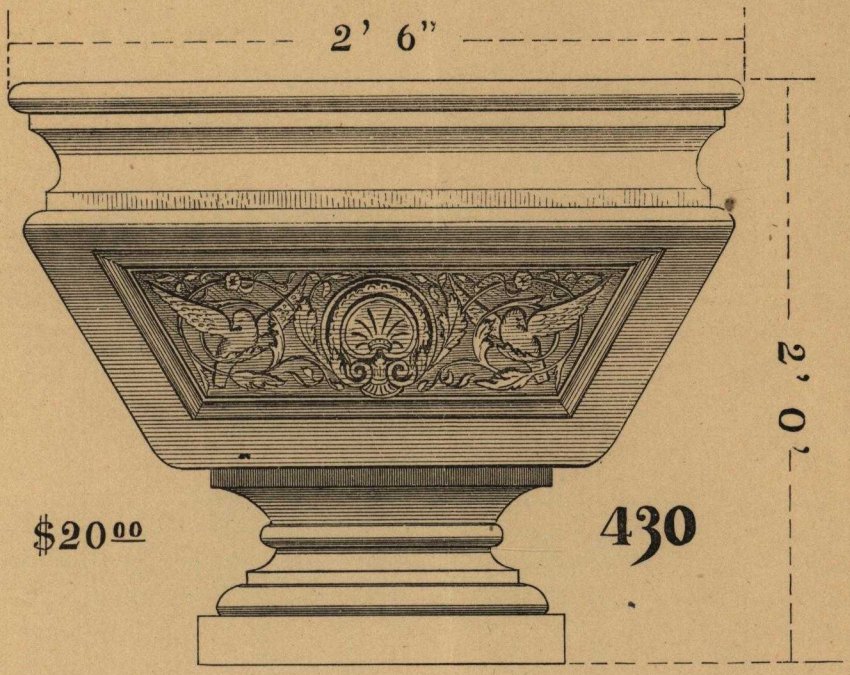
$25.00


1' 8"
1' 8"
1' 4"
361
$7.50
$6.00
362
1' 8"
1' 9½"
1' 5"
356
$7.50
$9.00
359
1' 6"
358
$6.00
360
$4.50

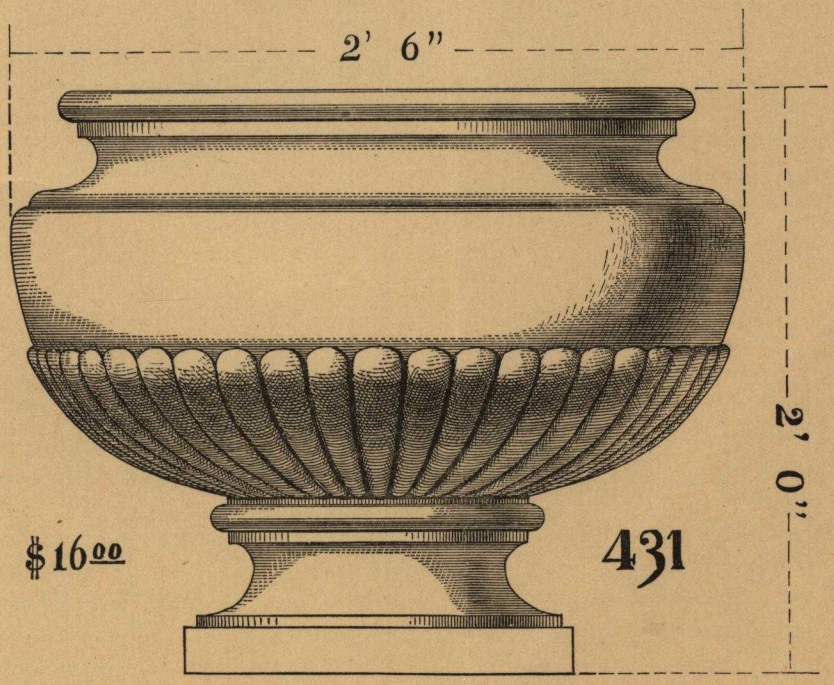


428. $15.00

429. $10.00

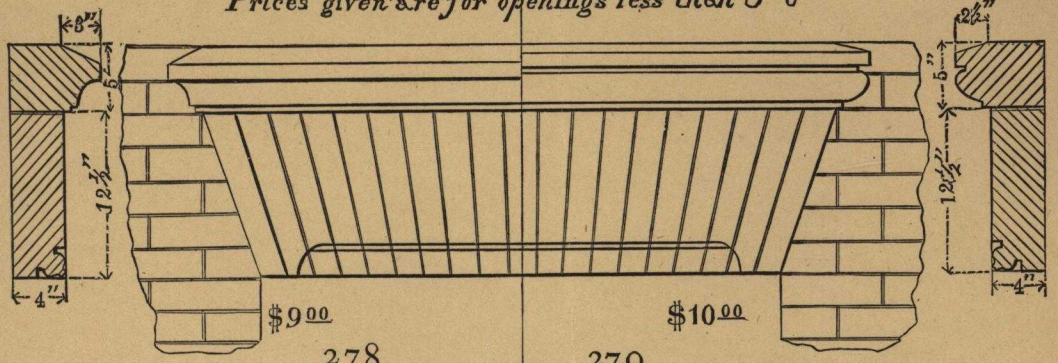


$20.00 430

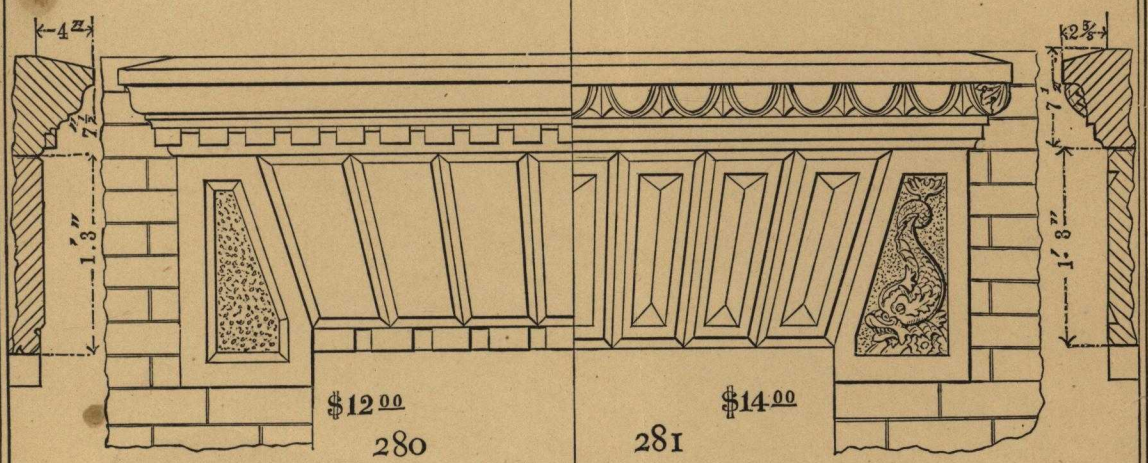


$16.00 431

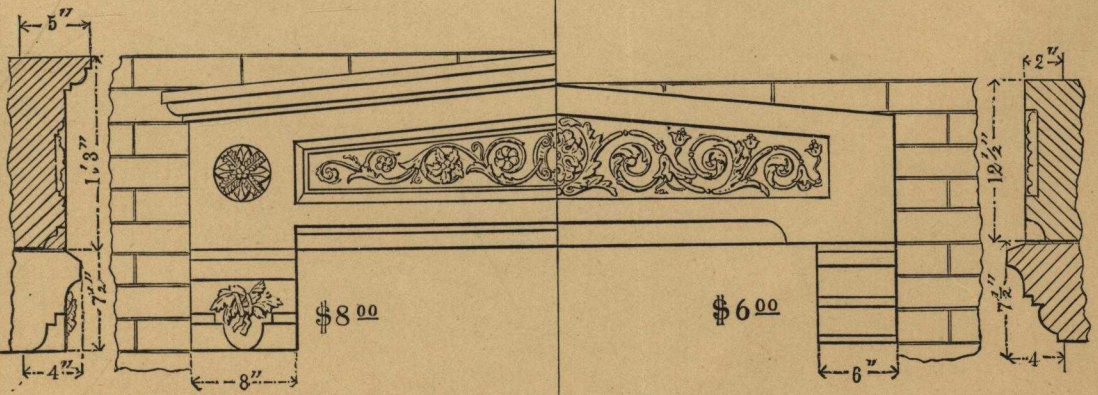
Prices given are for openings less than 3' 6"



$9.00 278 $10.00 279



$12.00 280 $14.00 281



$8.00 282 $6.00 283

Special Prices on Application, stating quantity and Width of Opening.

Terra Cotta Company.